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Is the grass really greener? Improvements in migrants' local labor market conditions and financial health

Stephan D. Whitaker*

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Abstract

This paper documents several facts about internal migrants in the US that underlie substantial areas of economic research and policymaking, but are rarely directly published. Using a large-sample 23-year panel, the Federal Reserve Bank of New York/Equifax Consumer Credit Panel, I estimate the distribution of changes in local labor market conditions experienced by people who move to a different labor market. Net migration favors local labor markets with lower unemployment and faster job growth, but gross flows toward weaker labor markets are almost as large as the flows toward stronger labor markets. During recessions, net flows temporarily favor weaker labor markets. Migrants frequently choose destinations with similar labor market conditions rather than moving to the markets with the highest growth or lowest unemployment at the time of their move. A hypothesis that personal financial health improves for people moving to tight local labor markets (or deteriorates for migrants to slack labor markets) is only partially supported in the data. Migrants to low-unemployment and high-employment growth regions have higher homeownership rates after they move. However, there are no clear advantages or disadvantages for migrants to strong or weak labor market regions as measured by credit scores, consumption, bankruptcy, or foreclosure.

JEL codes: J61, E24, R11, D14

Keywords: Internal migration, local labor market conditions, unemployment, employment growth, consumer credit, financial health

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1 Introduction

Discussions in both the popular press and the economic literature generally take for granted that workers move from regions with weak local labor markets to regions with strong local labor markets, and not the reverse. These moves should help balance the supply and demand of labor in both the sending and the receiving region, and the re-balancing should reduce economic inequality between areas. In this analysis, I will explore the changes in unemployment rates and employment growth that migrants have experienced over the last two business cycles. This analysis, while confirming that net worker flows do go in the direction we would expect, makes three important points about the context. First, tens of thousands of people move every year to labor markets that are weaker than those they were living in. These flows almost offset the migration toward stronger labor markets. Second, during recessions, the flows toward strong labor markets decline more than the flows toward weak labor markets, and net flows temporarily favor weaker areas. Finally, most migration involves circulation between similar labor markets, which contributes to sizable gross inflows even in weaker labor markets. Looking at several measures of personal finance that can be observed in credit histories, I find that migrants do attain higher levels of homeownership, and this increase is greater if the mover chooses a destination with higher employment growth and lower unemployment rates.

2 Literature

Economists have long recognized that migration is necessary to equalize the supply and demand for labor in local labor markets. Bartik (1993) provided evidence that when a region experiences creation of new jobs, a similar number of migrants will arrive in that region within a few years. Many researchers have followed Blanchard and Katz (1992) in estimating how quickly people will migrate out of a region after the region is hit with job losses. Decressin and Fatas (1995) and Magrini (2004), among others, have argued that part of the explanation

for persistently lower unemployment rates in the United States relative to Europe is that a common citizenship and language enabled Americans to quickly reallocate workers to new locations as labor demand warranted. However, gross migration has been falling in the US since 1980, as highlighted by Frey (2009) and others. Partridge et al. (2012), Molloy, Smith, and Wozniak (2011), Molloy et al. (2016), and Kaplan and Schulhofer-Wohl (2017) have explored a variety of potential causes for this slowdown, including aging, dual-career households, declining regional variation in the returns to skill, and declines in job turnover. Economists have been concerned that the lack of labor mobility slowed down the last two economic recoveries. Dao, Furceri, and Loungani (2017) completed new estimates of the rates of labor adjustment, and their evidence suggests that labor adjustment in the US has been declining in recent decades.

One consistent theme through these dozens of related studies is that populations often takes years to respond to an area's positive or negative shock, and the responses to negative shocks often seem to be incomplete. In this analysis, I will look specifically at how different labor market conditions are for migrants following their moves and how common it is for people to move in the "wrong" direction. The offsetting movements toward weaker markets will reduce the econometric estimates of labor mobility's responsiveness, especially if researchers are using aggregate data and population changes as a measure of migration.

3 Data

To observe individuals migrating, I use the Federal Reserve Bank of New York/Equifax Consumer Credit Panel (CCP). These data are a random, anonymous sample of consumers drawn from the credit histories maintained by Equifax, one of the national credit bureaus. The CCP follows over 10 million individuals in each quarter from 1999 through 2021. The data contain the census block of each borrower's current mailing address, which enables me to link migrants to quarterly measures of the local labor market in both their original locations and

their destinations. Each month, the servicers of mortgages, auto loans, student loans, credit cards, and other consumer credit report each borrower's outstanding balances to Equifax along with the current address the servicer has on file for the borrower. From the multiple reports, Equifax determines the borrower's most likely current address, and the census block containing that street address is added to the CCP data. The street address is not revealed in the CCP as part of the anonymization process that also excludes names and Social Security numbers. For further details about the CCP's randomization process, contents, and its use in measuring migration, see Lee and Van der Klaauw (2010) and DeWaard, Johnson, and Whitaker (2019).

The two measures of local labor market conditions considered here are the unemployment rate and employment growth. I use county-level estimates from the Bureau of Labor Statistics and aggregate them to commuting zones. A migrant in this analysis is someone who moves from one commuting zone to another, excluding movers who cross a CZ boundary without leaving the core-based statistical area. While low unemployment rates are often found in the same markets as strong employment growth, the correlation between the two measures is low, at around .2. Some regions have low unemployment rates because slow population growth closely matches slow employment growth. There are also regions with high unemployment and high employment growth. In these areas, new jobs are being filled by in-migrants hired in national (and international) labor markets for their specialized skills. At the same time, there are many local unemployed people who lack the skills to fill those new positions, so the unemployment rate remains high.

4 Results

4.1 Reasons for migration

Before exploring the relationship between migration and local labor conditions, it is worth briefly looking at migrants' statements about the reasons for their moves. The March Sup-

plement of the Current Population Survey asks respondents whether they have made either a local or a long-distance move within the last year. If they have moved, they are given 19 possible reasons for moving and asked to select the most important factor.[1] In Figure 1, I have grouped the reasons into four categories and plotted them since the question was first asked in 1999. The units are the percent of prime-age respondents who have made an interstate move for the stated reason in the last year. Work-related reasons are the most common, and we can see that work-related moves, as well as family- and housing-related moves, have declined over the last two decades. Figure 2 displays the share of all interstate moves by prime-age individuals where respondents gave a work-related reason as their top motivation. This share was below 50 percent from 2000 to 2006. It increased late in the housing-driven expansion and then remained between 50 and 60 percent for 15 years despite huge changes in labor market conditions over that time span. The fact that almost half of respondents say they are considering something other than work as their primary motivation for moving suggests that we may not find a strong relationship between local labor market conditions and migration. These patterns are very similar if we include respondents of all ages. If we include county-to-county moves in the same state or within-county moves, a larger share of the moves are motivated by a desire for a better house or a better neighborhood.

4.2 The distribution of changes in conditions

Figure 3 displays the median and four other percentiles from the distribution of changes in the local unemployment rate that are experienced by prime-age migrants moving to a commuting zone outside their core-based statistical area. The first thing we learn from this graph is that almost half of all long-distance migrants are moving to labor markets that have higher unemployment rates than the labor markets they are leaving. In most quarters, the distribution is close to being symmetrical around a median, and mean, of zero. This may

[1] Of the 19 responses, I categorize the following five reasons as work related: (1) new job or job transfer, (2) to look for work or lost a job, (3) for easier commute, (4) other job-related reason, and (5) attend/leave college.

be somewhat surprising, but we should recall that people move for many reasons other than work, and even people who move for work are considering their personal situation more than general labor market conditions. A person at the 90th percentile of this difference measure, moving from a low-unemployment region to a high-unemployment region, might have received a highly productive and well-paid position in the high-unemployment-rate area. The means, medians, and standard deviations of the distributions displayed in Figures 3 and 4 can be found in Appendix Tables A1 and A2.

The median value of these differences in unemployment rates is negative in 67 of the 89 quarters in the data because, on net, people are more likely to migrate toward areas with lower unemployment rates. Interestingly, the median difference in unemployment rates turned moderately positive after the 2001 recession and strongly positive during and after the Great Recession. More people were moving toward places with higher unemployment rates than the places they left. The variation in unemployment rates between commuting zones doubled from the end of 2007 to the beginning of 2010 (the standard deviation rose from 1.08 to 2.13). This allowed migrants to experience larger increases and decreases in the local unemployment rates as they moved. The national distributions of the population-weighted commuting zone unemployment rates and employment growth are displayed in Figures A1 and A2. The CZ values are presented demeaned, subtracting the national average from each value, so that the dispersion is not obscured by the relatively large business cycle trends.

Figure 4 is constructed in a manner similar Figure A1, but in this case, the difference is between employment growth over the preceding year in the migrant's origin and destination. This distribution is also nearly balanced, with almost as many migrants moving to places with lower employment growth than places with higher employment growth relative to the place they are leaving. To put these values in context, the standard deviation of the employment growth measure over the 90 quarters has been 2.0. With only a handful of exceptions, the median remains within 1/6 of a standard deviation from zero.

As with unemployment rates, the median migrant counter-intuitively moves toward slower

growing or faster declining labor markets during recessions and the beginning of the recoveries. Figure 5 displays the phenomenon in another way by providing the share of all movers who are moving to a local labor market with a lower unemployment rate or higher employment growth. During expansions, about 53 percent of migrants arrive in places with better recent job growth. During and soon after recessions, only 40 to 45 percent of migrants are moving toward stronger markets. The estimates in Figures 3, 4, and 5 are all based on prime-age individuals in the CCP. Figures A3 and A4 display the same distributions with the full age distribution. Despite young people being more mobile, and retirees moving less for work-related reasons, the distributions for the full population are nearly identical to the distributions for prime-age movers.

Table 1 presents the results of simple regressions to test whether the apparent shifts in the distribution of changes observable in Figures 3 and 4 are significantly different from zero. Coefficients are estimated for indicators of six time periods defined by the strength or weakness of the national aggregate labor market measures. The omitted category is the quarter in which the measure is closest to zero, so the coefficients on the time period indicators are effectively differences from zero. The signs of the coefficients are as we would expect, with unemployment rate changes being negative when labor conditions are relatively tight in most places. During periods of weak labor markets nationally, unemployment rate changes experienced by the average mover are positive. The employment growth coefficients have exactly the opposite signs. However, given that the differences at the mean are all less than three-tenths of a percentage point, and the standard deviations are far larger, none of the coefficients is significantly different from zero. That is the case despite the very large sample size.

Figures 6 and 7 present the closest parallels to Figure 3 and 4 that can be created using the publicly available CPS microdata. The CPS data have a longer history, and I have included measures from two additional business cycles by beginning in 1981. In the public data, the respondents' county of residence is reported if it is populous, so if the respondents

indicate that they have moved within the last year, their destination commuting zone and its unemployment rate and employment growth can be assigned. However, only the origin state is given, so the origin values are state averages. State averages balance high and low markets within the state, so the more extreme moves are misrepresented with the smaller difference between the origin state average and the destination CZ value. Also, unlike in the CCP, the CPS does not reveal when within the year the respondent moved. I have assigned the origin and destination labor market measures averaged over the four quarters preceding the March Supplement interviews, but the earlier in the year-long look-back period that the respondent moved, the less accurately this value represents the labor markets that the mover observed when making his or her decision. Despite these limitations, the patterns in Figure 6 are similar to those in Figure 3 except that the median variation is muted. In Figure 7, the median realized difference in employment growth follows the pattern of being positive during expansions and zero or slightly negative near recessions.

Figures 8 and 9 give the estimates that parallel Figures 3 and 4 using the American Community Survey (ACS). The ACS surveys respondents throughout the year and releases micro data annually. As in the CPS, the ACS migration question looks back one year without pinpointing when a move happened within that year. Before 2005, only movers' origin states are available. After 2005, the origin and destination geographies come in the form of Migration Public Use Microdata Areas (MIGPUMAs). These areas are designed to contain approximately 100,000 people, and they do not necessarily align with the geographies for which the local labor market measures are available. In urban areas, there will be several MIGPUMAs within a commuting zone, allowing for an accurate mapping. In rural areas, the MIGPUMAs may contain all or part of multiple counties or CZs, so a weighted average is the best approximation of the labor market measures. Comparing the ACS (Figure 8) and CCP (Figure 3) unemployment change distribution reveals they are very similar in terms of their variance and time trend. The most notable difference is that the median of the ACS distribution displays almost no cyclical variation.

4.3 The evolution of flows over the business cycle

The cyclicality that we see in the distributions of differences in labor market measures raises the question of whether the flows toward weaker local labor markets actually increase during recessionary periods. Alternately, moves toward weaker markets might be motivated by retirement or family reasons, which are less sensitive to the business cycle. These moves might continue unaffected, while the moves driven by employment opportunities dry up.

Figure 10 displays the CCP-based estimates of migration flows between high-, medium-, and low-UR zones. The categorization is population weighted, meaning that in each quarter, one-third of the population is living in the high-, mid- and low-unemployment-rate CZ.[2] We can see that movement between mid-UR and low-UR regions is higher than the other types of movements in most quarters of the study period. The flows are clearly paired, with parallel trends in the counts of migrants moving in either direction between the same terciles. For example, the estimated number of people moving from a high-unemployment-rate labor market to a low-unemployment-rate market is similar to the estimated count of movers from low-unemployment-rate markets to high-unemployment-rate markets. All of the paired series decline following recessions and rise in expansions. Rather than flows from high- and mid-UR regions toward low-UR regions declining more during and after recessions, the cyclical changes in the median in Figure 8 appear to be driven by changes in the gaps between the paired series. When the movers' origins and destinations are categorized by the tercile of employment growth in Figure 11, the gaps in the counts of migrants each quarter are larger, with the high-employment-growth places clearly dominating. The gaps narrow, but do not reverse during recessions.

As in Section 4.2, we would like to know if the changes in the net flows over the business cycle are significantly different from one another. Table 2 displays the results of six

[2]In the CCP data, counts of migrants nationwide were relatively low from 2002 Q3 to 2004 Q1. In 2004 Q2, a very large number of people appear to migrate. This causes the trough and peak that appear in those years in Figures 10 and 11. The pattern suggests some moves recognized in 2004 Q2 actually happened in earlier quarters, but at this time, we do not have a way to make a correction. This will introduce some measurement error by matching movers with late quarterly labor market measures, but serial correlation in those measures should minimize this measurement error.

regressions. The outcome variable is defined only for people moving between the types of regions indicated at the top of the column. The value is +1 if they are moving toward the stronger labor market and -1 if they are moving toward the weaker labor market. In each regression, the omitted category for the groupings of quarters is the quarter with movement closest to balanced (the mean of the dependent variable closest to zero) so the coefficients on the time period indicators can be interpreted as differences from zero. The net movements of people from high- and middle-unemployment-rate regions to low-unemployment-rate regions are positive and significantly different from zero in all time periods except the jobless recovery (2001:Q2-2004:Q1). Movements toward high-employment-growth areas are significantly greater than movements in the opposite directions in all time periods.

For the median of the employment growth differences to turn negative, as it does in 2002, 2009, and 2020, most of the movers within terciles must be experiencing at least slightly negative differences, in the local employment growth between their origins and destinations. Similarly, the movement toward higher-unemployment-rate regions during and shortly after recessions must be concentrated within terciles because both Figures 10 and 11 and the regressions in Table 2 suggest that the movements between terciles almost always favor lower-unemployment and higher-employment-growth commuting zones. To focus on the moves to similar places, the next section explores movements by percentile rather than tercile and reveals the tendency for movers to circulate between similar places.

4.4 The migration matrix by decile of labor market conditions

The migrants flowing between the terciles defined for Figures 10 and 11 are more likely to experience large changes in the local unemployment rate and employment growth. Those flows don't include all the people who move to a different labor market without changing terciles. Figures 12 and 14 map all of the migration flows from 2016 to 2019 by the percentile of the labor market measures in the migrant's old and new locations. In these figures, we see evidence that not only are most migrants not making substantial improvements in local labor

market conditions, but most migration involves circulation among similar labor markets. In both graphs, the largest flows of migrants are found going between places with the lowest unemployment rates and the highest job growth, and other places with low unemployment and high employment growth. These are represented by the red areas in the lower left of Figure 14 and the upper right of Figure 12. Figures 13 and 15 reproduce the surface graphs using migration during a period of relatively weak national labor market aggregates from 2008 through 2011. There is a visible decline in the circulation among regions with relatively low unemployment rates. An increase in circulation among regions above the 50th percentile UR is suggested by the red region on the diagonal between the 50th and 90th percentiles.

Surprisingly, all four graphs display large flows (red areas) from areas with poor local labor market conditions to other areas with poor local labor market conditions. Currently, there is discussion in the academic literature (for example, Coate and Mangum (2019)) on the value of local friends and family networks, and whether this can explain the lack of movement of underemployed people out of distressed areas. However, Figures 12 through 15 represent only people who have chosen to migrate and end their day-to-day interaction with their previous social network. Yet people from distressed areas choose other distressed areas more frequently than regions with lower unemployment and higher job growth.

There are a couple possible explanation for this. Regions with similar industrial mixes may have similar unemployment rates and job growth. For example, tech workers may circulate between Raleigh, Austin, and Seattle, while industrial workers circulate between Detroit, Cleveland, and Milwaukee. Also, migrants favor labor markets that are geographically close, even if they are changing commuting zones. Because local labor markets are usually more similar to nearby markets than markets in other parts of the country, this tends to land migrants in destinations that are like the places they left. The preference for close destinations could be due to a desire for quick and inexpensive travel home or familiarity with the region's culture and climate. Whatever the motivation, the result is that most migrants move to places where the unemployment and employment growth rates are less than 1 percentage

point different from those of the places they left.

Tables 3 through 6 parallel the Figures 12 through 15 and test whether people leaving each type of region, as defined by its relative labor market condition are more or less likely to be part of the inflow into each other region relative to the omitted category, the flow from the fifth decile. The sample size of over 1 million allows the coefficients to be precisely estimated, and most are significantly higher or lower than the omitted category. Of the arrivals in regions with the lowest (first decile) unemployment rates, a little less than one in ten are arriving from regions in the fifth decile. This is indicated by the value of the constant, 0.094. Of the arrivals in first decile regions, 10.3 percent are coming from second decile regions (0.059 + 0.094), and that is significantly more than the arrivals from the fifth decile. Arrivals from the higher deciles make up smaller shares of the migrants to the first decile, as evidenced by their smaller or negative coefficients. The affinity for similar regions is confirmed by the estimates throughout the distribution and during both relatively slack national labor market conditions (2008-2011) and tight conditions (2016-2019).

4.5 Financial health before and after moving

The estimates so far have measured how local labor market conditions change for movers. However, as mentioned above, individual matches between workers and employers could mean that local labor market conditions are not relevant close to the time of a move. Some people may secure employment before they move. Others will be returning to a former labor market where their established network enables them to outperform the aggregate employment measures. While the CCP does not have employment and income measures, we can observe several measures of household financial health at high frequencies. I have selected five to highlight in this section: credit score, homeownership, consumer debt balances, bankruptcy and foreclosure.

The credit score reported here is the Equifax Risk Score. Equifax creates the score using the information in the borrower's credit records, and it is designed to predict the probability

of the borrower becoming seriously delinquent on his or her debts over the next 24 months. Homeownership is measured by the presence of any home-secured debt balances in the mover's record, such as a mortgage or homeequity loan. The consumer debt balances are measured at the median for groups of borrowers making certain types of moves, such as a move from a high-UR market to a low-UR market. Consumer credit balances are primarily credit card debt. Most of these balances are transactional in the sense that they are fully paid off each month. This is especially true at the median.[3] The transactional nature of the median consumer credit balance means that it is useful as a measure of current consumption for individuals or households (Bleemer and van der Klaauw, 2019). Finally, the bankruptcy and foreclosure measures are the percentage of the movers in a flow who have had a bankruptcy or foreclosure flag added to their record in the last three years.

In Figures 16 through 25, there are two sets of subfigures. The top set represents movers who moved during the tight labor market conditions of 2016 Q1 to 2018 Q3. The bottom set represents movers during the slack labor market period of 2008 to 2011. In the left-hand-side subfigures, the levels of the measure are given for people in each of the six migration flows that take people from regions in one tercile to regions in a different tercile. On the right, all the levels subtract the level observed for individuals who moved from one middle-tercile market to a different middle-tercile market. This removes the trends that are associated with moving itself (e.g., selling a home or putting moving costs on a credit card) and lets us focus on the differences between movers to various types of destination. The graphs are centered on the quarter of the move and look back and forward 12 quarters. The dates of the tight labor market have to differ from those used in Sections 4.2 through 4.4 because the outcome is reported for 12 quarters after the move, and that cannot be observed yet for people who moved in 2019.

In figure 16, we can see that the people who move between regions with mid-range or low unemployment rates have credit scores a full 40 points higher (four-tenths of a standard

[3]I present the median rather than the average because average consumer debt balances are heavily influenced by some borrowers who carry large balances from month to month.

deviation) than the people who move from areas with mid-range unemployment rates to areas with the highest rates. The paired flows during the tight labor market period suggest people going in either direction are more similar to each other than they are to people who share either an origin or destination, but not both. During the slack labor market quarters, the age-adjusted scores of the people moving between mid- and high-unemployment-rate regions were more similar to the scores of people moving between low- and high-unemployment-rate regions. During the slack market, the median mover's Equifax Risk Score dipped for two quarters before and two quarters after the move. The scores recover by the 6th quarter post-move. During the tight labor market period, no pre-move dip is visible, and the post-move dip is smaller. After I difference out the levels observed for movers from mid-UR regions to other mid-UR regions, the only remaining time trend is the observation that scores are improving for people moving between low- and mid-unemployment regions during the three years before they move. After the move, there is no further relative improvement. In Figure 17, there are again large level differences in Equifax Risk Scores between movers in different flows. People moving during slack markets from mid-employment growth to low-growth regions appear to have deteriorating Equifax Risk Scores. That is not the case for other people moving during the same time period.

Figures 18 and 19 reveal that all types of moves are followed by a dramatic increase in homeownership. Before moves, homeownership is between 15 and 21 percent for all types of movers during the tight labor market quarters. Within three years of moving, homeownership is above .3 for all types of movers. The paying-off of mortgages before an inter-regional move is visible in all of the series, but it appears with a longer lead and greater decline during the slack labor market period. The differences graphs reveal that moving to regions with low unemployment or high employment growth does appear to give movers an advantage in terms of purchasing homes relative to people who make a mid to mid move. This is interesting because places with stronger local labor markets may also have higher housing costs, but apparently movers' incomes are sufficient to make homes affordable.

The bankruptcy measure represented in Figures 20 and 21 has some trends in its levels and differences relative to the quarter of the borrower's move, but none clearly varies by the type of inter-market move the borrower is making. Foreclosures rise steadily before moves (see Figures 22 and 23) and plateau thereafter. This is intuitive because movers who are homeowners, and therefore at risk for foreclosure, have been through an underwriting process recently and found to be creditworthy. The median consumer credit balance graphs in Figures 24 and 25 illustrate that higher-consuming individuals move toward low-unemployment and high-growth markets. The cost of moving itself is also visible in the distinctive increase in balances in the quarter of the move.

In this section, we have contrasted movers only with other movers. Presumably most movers are better off than they would have been if they had stayed where they were. People who are moving for a family or other non-labor-market reason might be better off in some dimension not measured here, and they might have given up some financial resources in the process. If that were the case, we might have seen people who move to weaker labor markets displaying worse financial health post-move, but that is not evident in the time series presented here. Conversely, we could hypothesize that all measures should improve for people moving to strong local labor markets. However, we see a distinct advantage in the purchasing of homes, but not in the measures of credit scores, consumption (consumer debt), bankruptcy, or foreclosure.

5 Conclusion

In this analysis, we have illustrated several facts about local labor market conditions, migration, and migrants' personal finances. We have seen that migration flows favor commuting zones with lower unemployment rates and higher employment growth during most of the business cycle. However, that on-net advantage is quite small relative to the gross flows, and tens of thousands of people move toward weaker local labor markets every quarter. This

provides an important context for policymakers' discussions of whether people can be attracted to locations that have recently had weak labor market conditions. Economists have noted that regions experiencing negative productivity shocks do not shrink their labor forces sufficiently to remove labor slack. The steady inflows of migrants to regions with weak labor markets contribute to this lack of adjustment, and most of these migrants are arriving from other weak markets. The discussion of why people are reluctant to move needs to be supplemented with a discussion of why those who do move choose other weak labor markets, and delay the balancing of labor supply and demand in their destinations.

Although the length of the series presented here is substantial, it does cover a period of US history that has seen relatively low levels of internal migration. Recent research has suggested that labor markets have become more similar across the country, so the gains that can be realized by moving are smaller, and fewer people find it worthwhile to move (Diamond and Moretti, 2021; Partridge et al., 2012). This is reflected in the measures of personal finance presented here. The main improvement observed for people who move to high-employment-growth regions is that their homeownership rates are approximately 3 to 4 percentage points higher than those of other migrants 3 years after the move. This does not control for selection, so it is possible that the type of people who move to high-growth areas may have achieved higher homeownership rates without moving. We do not see that people who arrive in low-UR or high-growth places fare remarkably better than people leaving those places in terms of credit scores, consumption (consumer credit balances), bankruptcy, or foreclosure. This suggests that migrants are not consistently finding greener grass in the form of higher and more stable earnings.

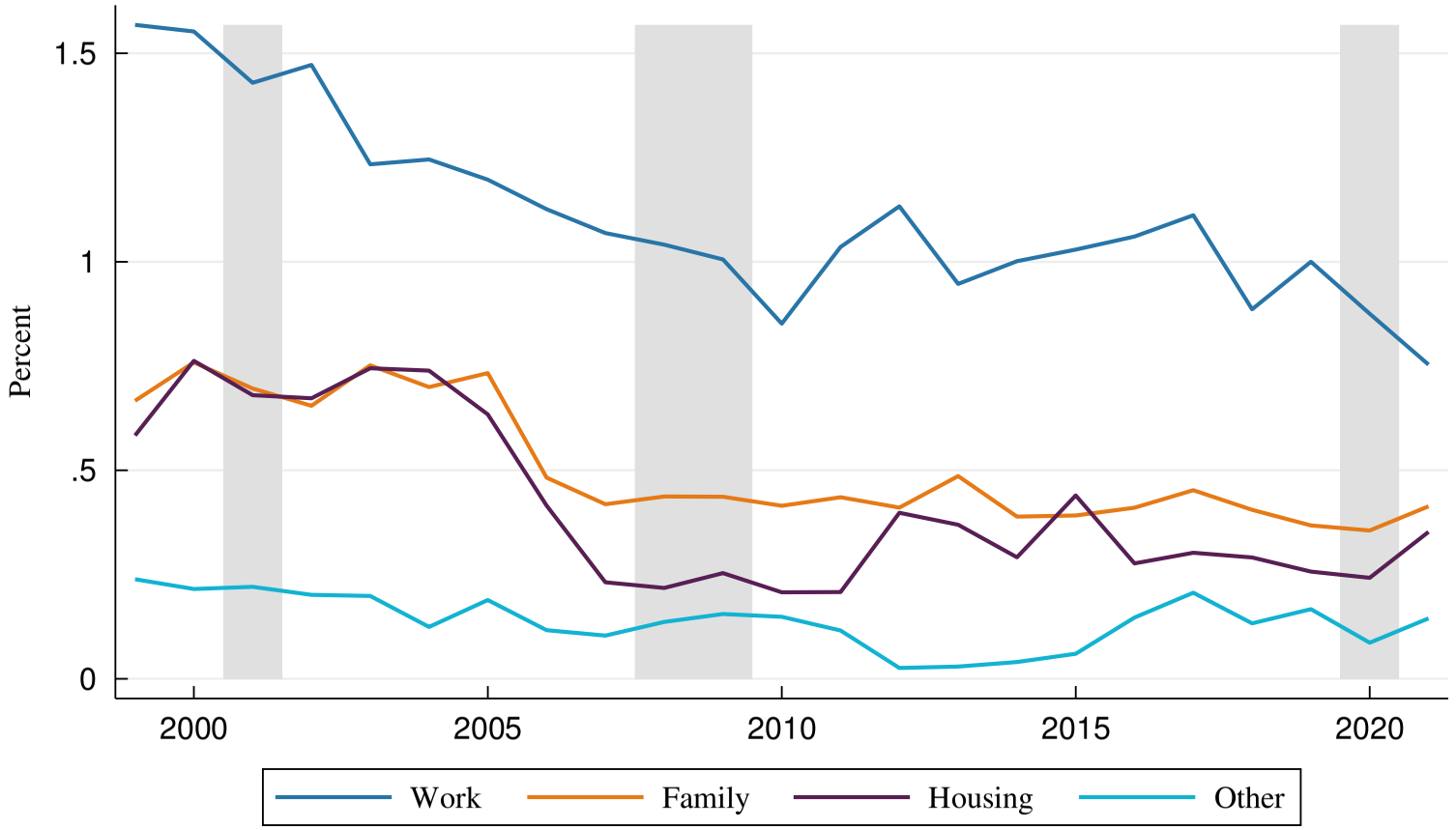

Figure 1: Reasons for moving among Current Population Survey respondents. The estimates are the share of CPS respondents who moved to another state within the past year and provided a reason that fell in the category. Limited to prime-age respondents, aged 25 to 54. Shaded bars indicate recessions. *Sources:* US Census Bureau and Bureau of Labor Statistics Current Population Survey Integrated Public Use Microdata Series (Flood et al., 2020).

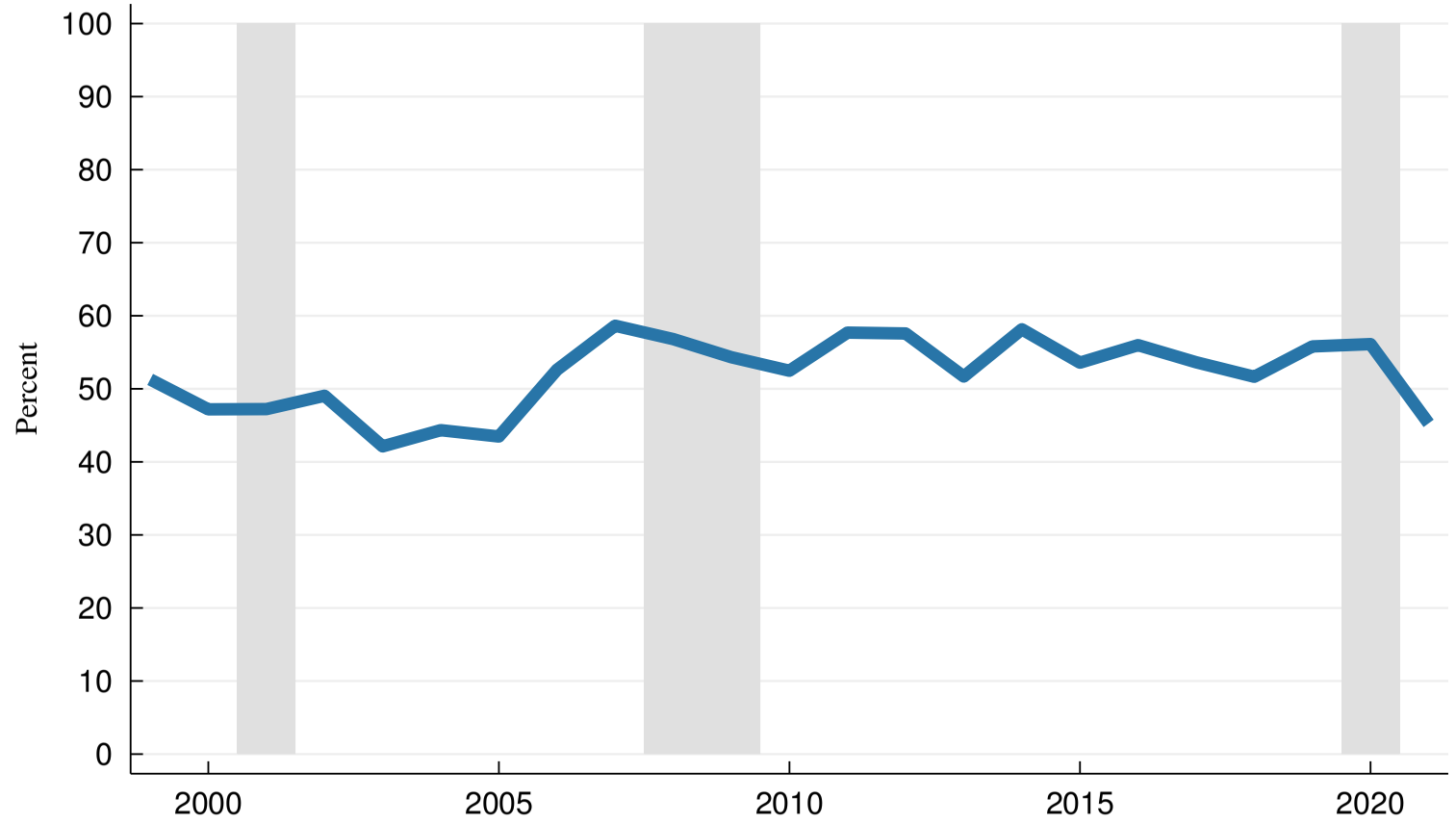

Figure 2: Share of interstate movers who provided a work-related reason for moving in the Current Population Survey. Work-related reasons include: (1) new job or job transfer, (2) to look for work or lost a job, (3) for easier commute, (4) other job-related reason, and (5) attend/leave college. Limited to prime-age respondents, aged 25 to 54. Shaded bars indicate recessions. *Sources:* US Census Bureau and Bureau of Labor Statistics Current Population Survey Integrated Public Use Microdata Series (Flood et al., 2020).

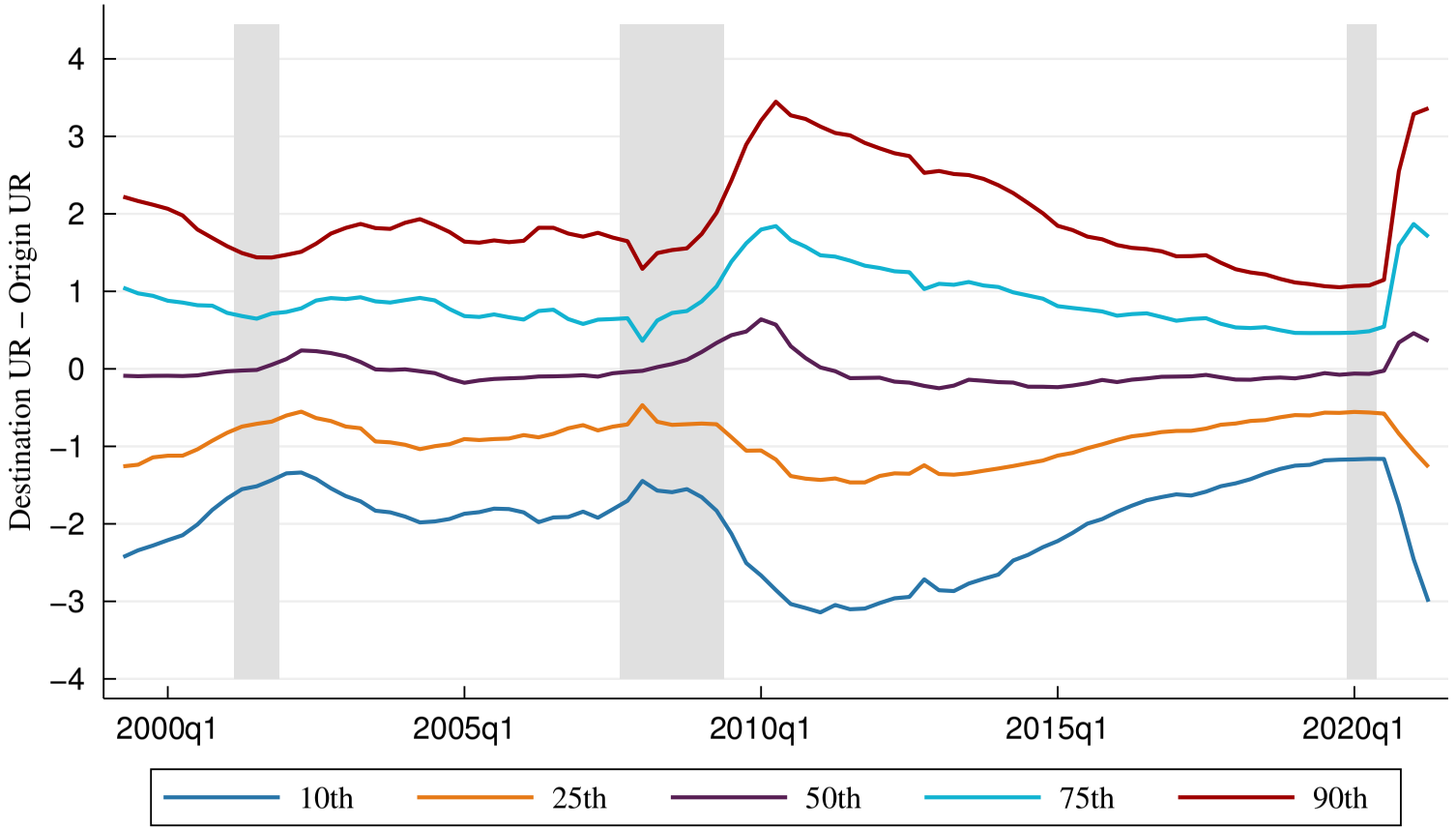

Figure 3: Percentiles of the differences in the unemployment rate between migrants' origin and destination. Shaded bars indicate recessions. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

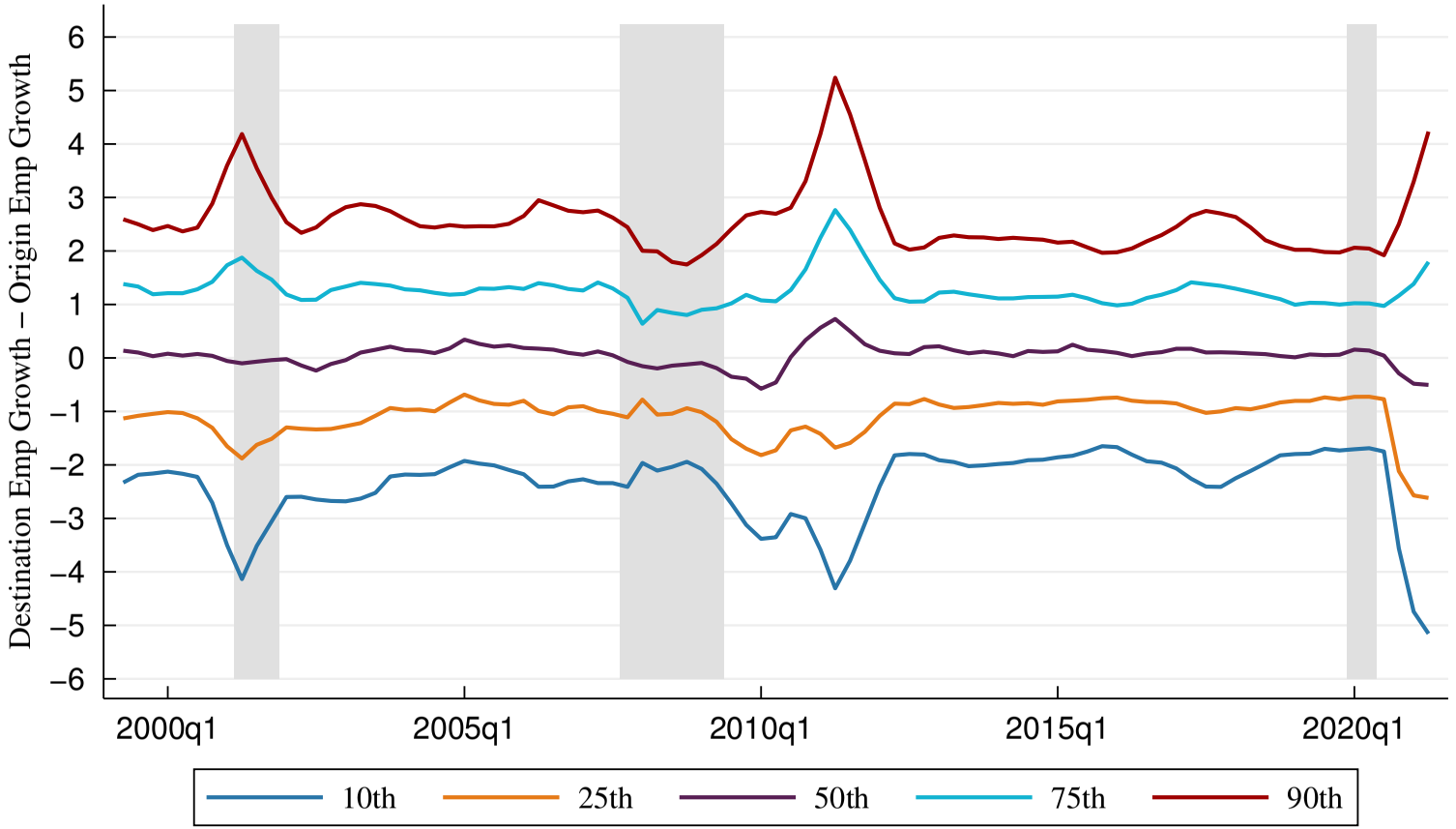

Figure 4: Percentiles of the differences in employment growth between migrants' origin and destination. Shaded bars indicate recessions. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

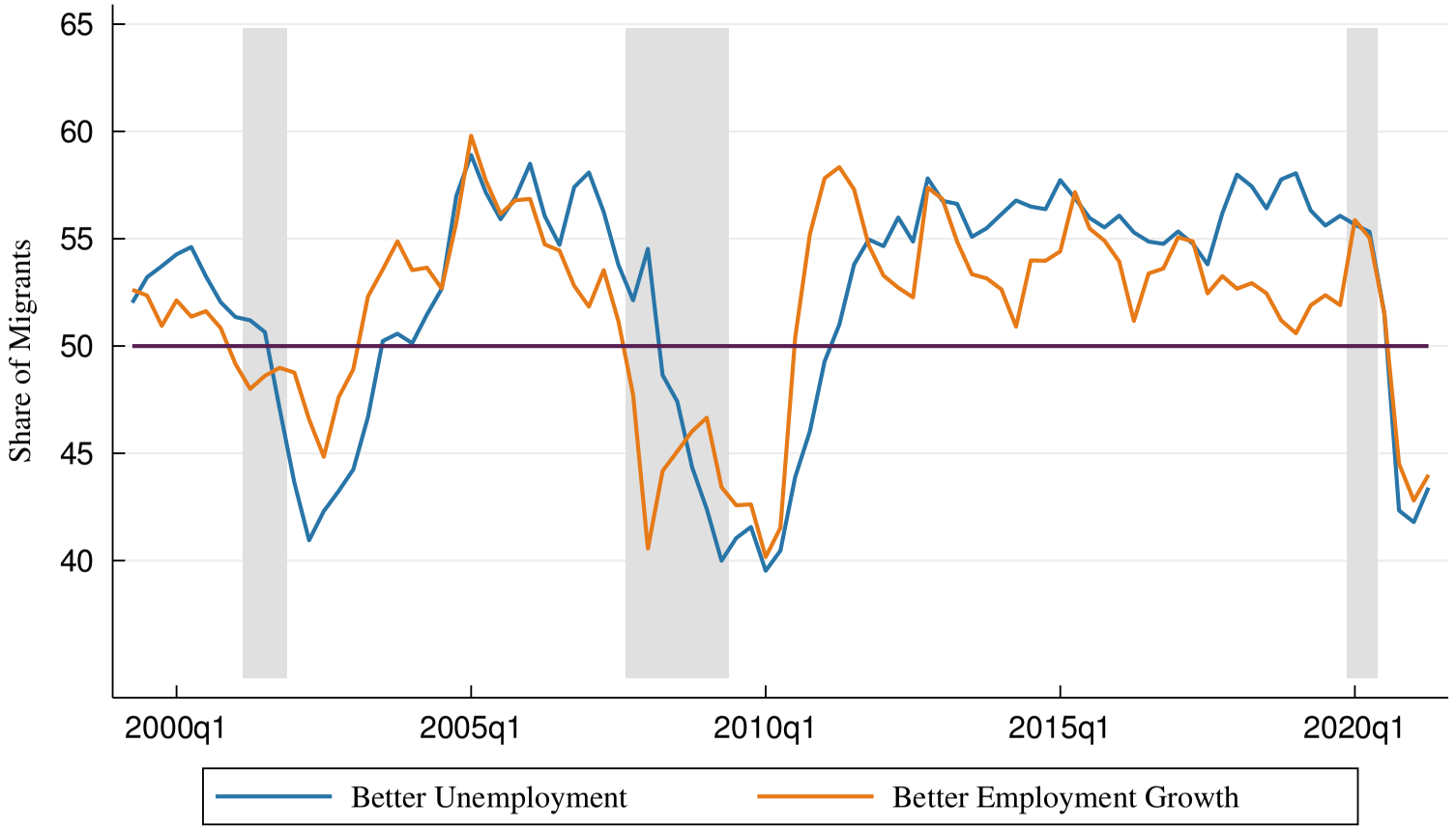

Figure 5: Share of migrants moving to a labor market with better labor market conditions. Shaded bars indicate recessions. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

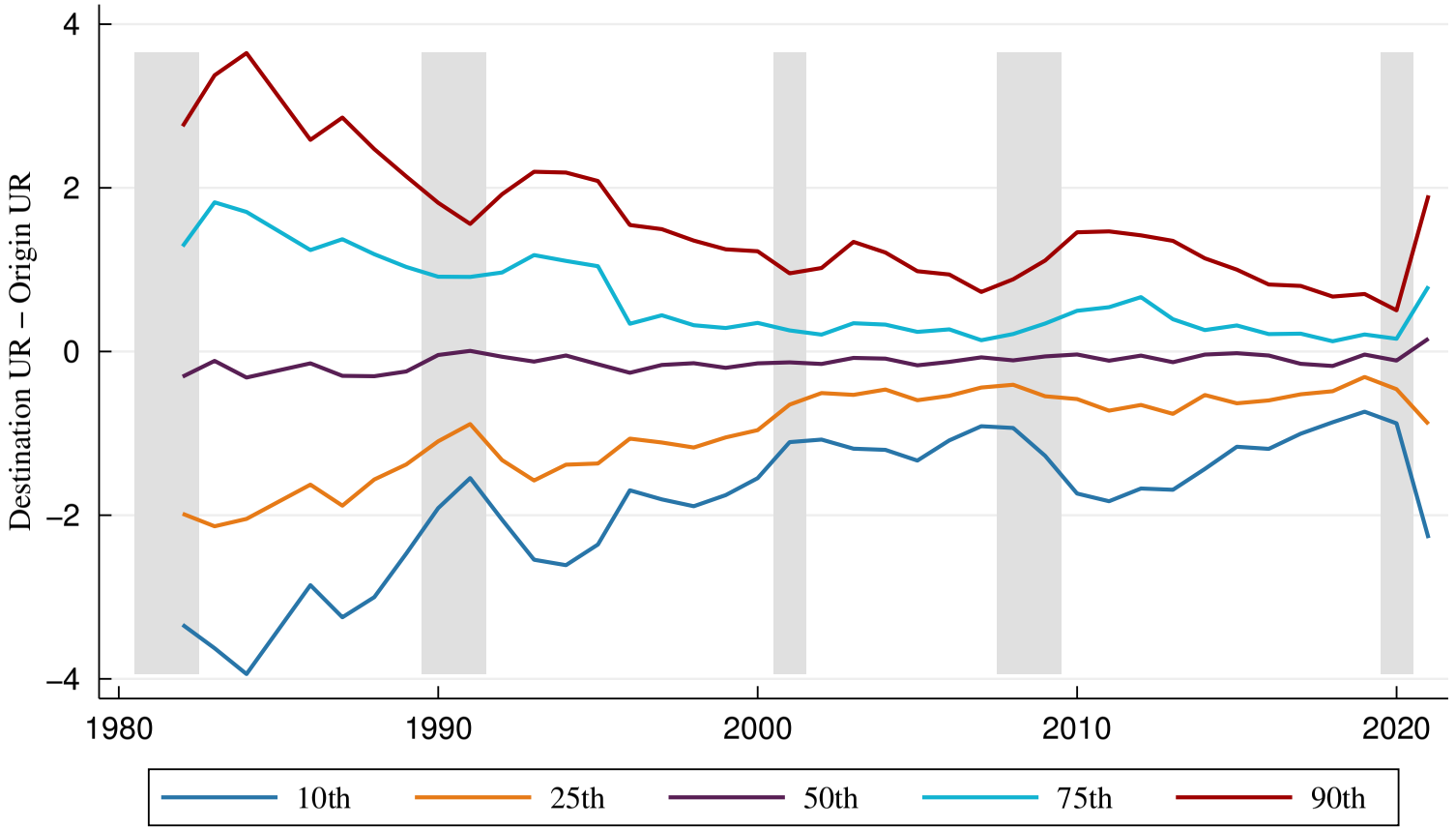

Figure 6: Percentiles of Current Population Survey interstate migrants' differences in unemployment rate between their origin and destination. Shaded bars indicate recessions. Observations limited to prime-age movers, aged 25 to 54. *Sources:* US Census Bureau and Bureau of Labor Statistics Current Population Survey Integrated Public Use Microdata Series (Flood et al., 2020).

Figure 7: Percentiles of Current Population Survey interstate migrants' differences in employment growth between their origin and destination. Shaded bars indicate recessions. Observations limited to prime-age movers, aged 25 to 54. *Sources:* US Census Bureau and Bureau of Labor Statistics Current Population Survey Integrated Public Use Microdata Series (Flood et al., 2020).

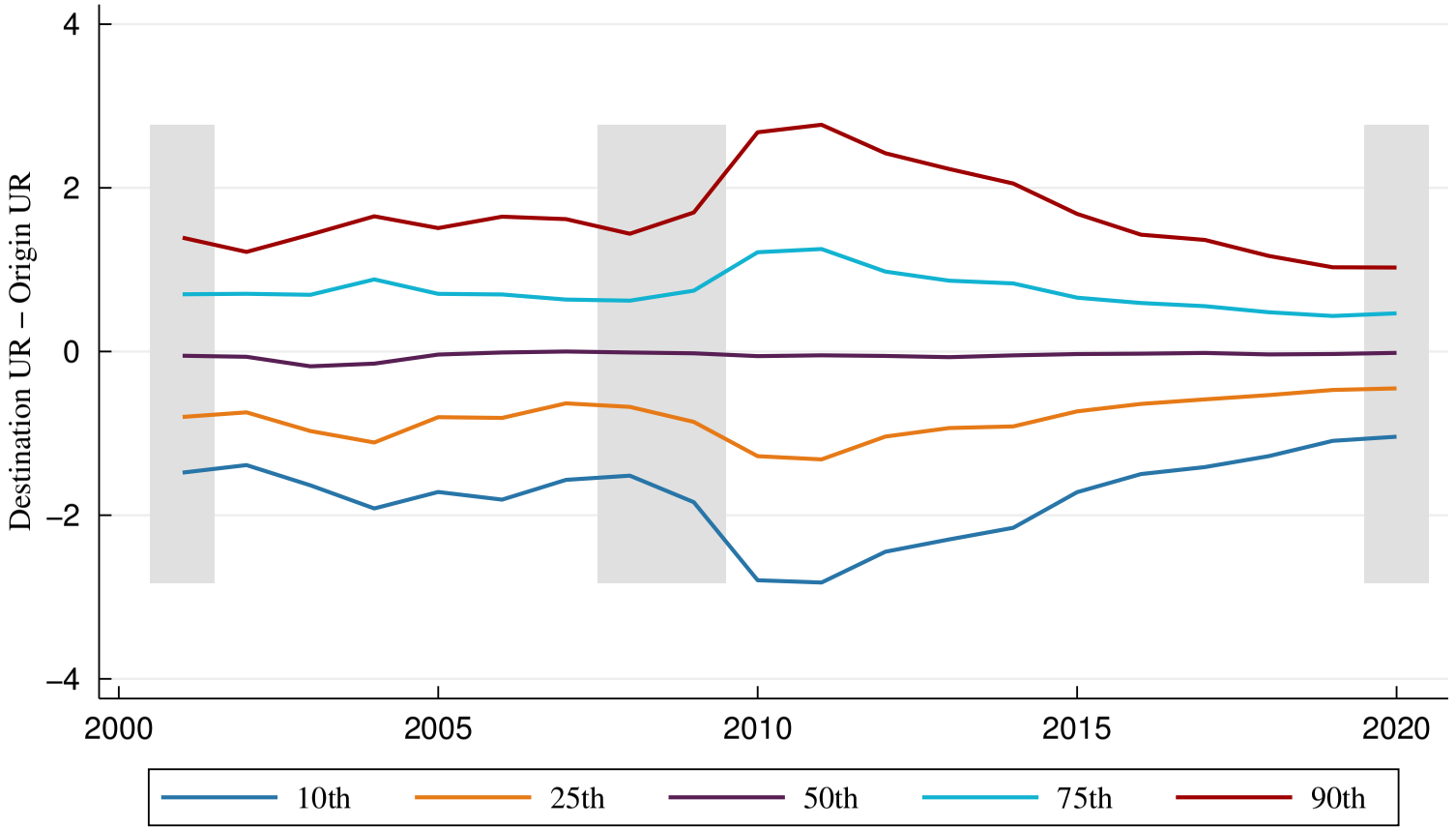

Figure 8: Percentiles of American Community Survey migrants' differences in unemployment rate between their origin and destination. Shaded bars indicate recessions. Observations limited to prime-age movers, aged 25 to 54. *Sources:* US Census Bureau American Community Survey Integrated Public Use Microdata Series (Ruggles et al., 2021), Bureau of Labor Statistics.

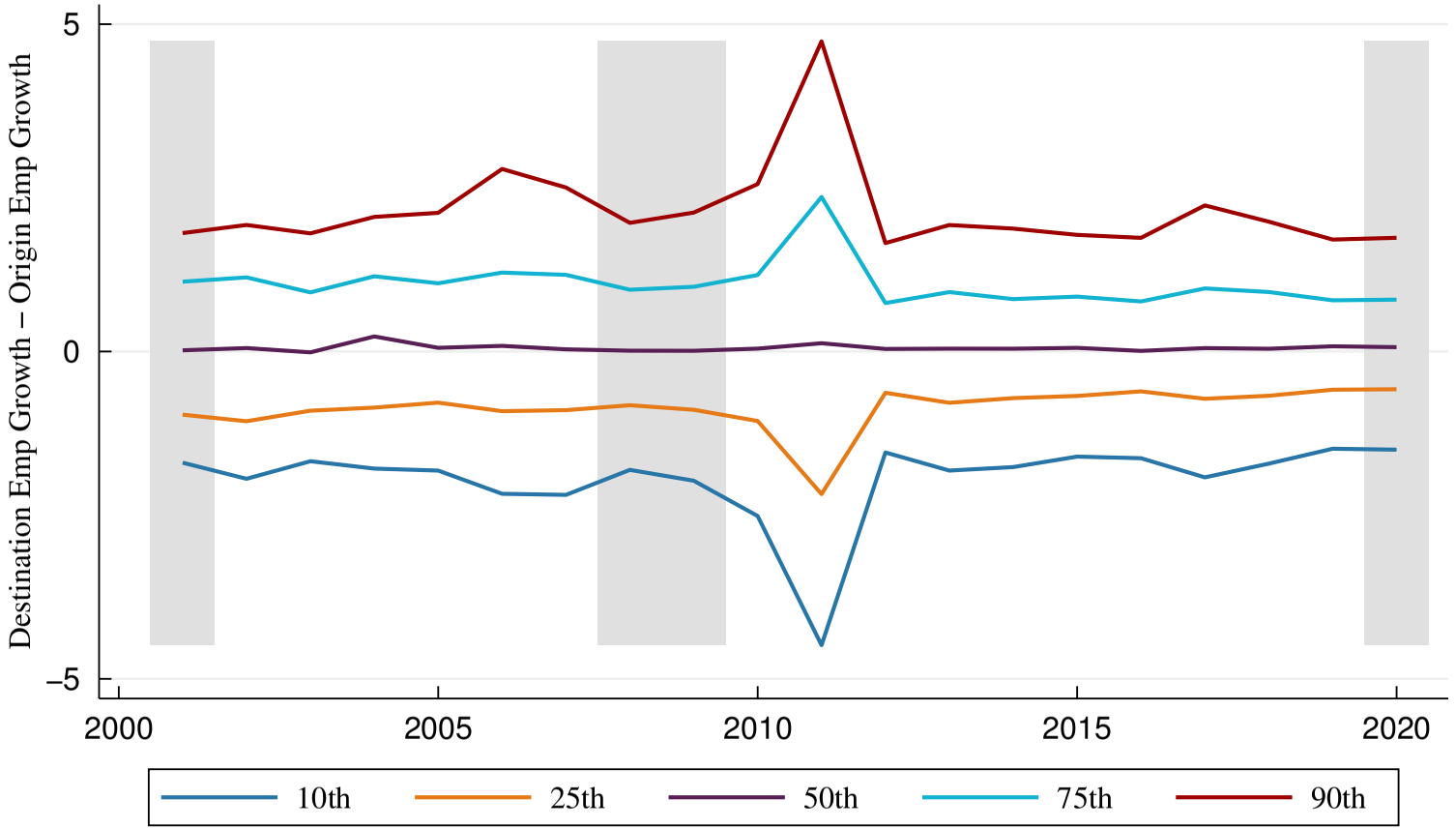

Figure 9: Percentiles of American Community Survey migrants' differences in employment growth between their origin and destination. Shaded bars indicate recessions. Observations limited to prime-age movers, aged 25 to 54. *Sources:* US Census Bureau American Community Survey Integrated Public Use Microdata Series (Ruggles et al., 2021), Bureau of Labor Statistics.

Table 1: Test of significant differences over the business cycle.

		Unemployment Change	Employment Growth Change
Dot Com	1999:Q2 to 2001:Q1	-0.104	0.088
		(0.150)	(0.189)
Second Jobless Recovery	2001:Q2 to 2004:Q1	0.055	-0.010
		(0.147)	(0.189)
Housing Boom	2004:Q2 to 2007:Q4	-0.073	0.169
		(0.147)	(0.186)
Great Recession	2008:Q1 to 2010:Q3	0.141	-0.166
		(0.148)	(0.186)
Long Expansion	2010:Q4 to 2020:Q1	-0.096	0.174
		(0.146)	(0.184)
Pandemic	2020:Q2 to 2021:Q2	0.210	-0.268
		(0.157)	(0.202)
Constant		-0.000	-0.000
		(0.145)	(0.183)
R^2		0.004	0.004
N		5,694,999	5,699,093

Differences in local labor market measures for migrants during time periods defined by strong or weak national aggregate labor market conditions. The dependent variable is the difference between the unemployment rate or employment growth in a migrant's origin and destination commuting zone. The omitted category is moves during the quarter in which the mean of the dependent variable is closest to zero. That is 2011 Q2 for unemployment rates and 2001 Q2 for employment growth. The estimating equation for the unemployment rate regression is $ur_{destination,t-1,i} - ur_{origin,t-1,i} = \alpha + \beta \mathbf{Cycle} + \epsilon_{\mathbf{i}}$. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

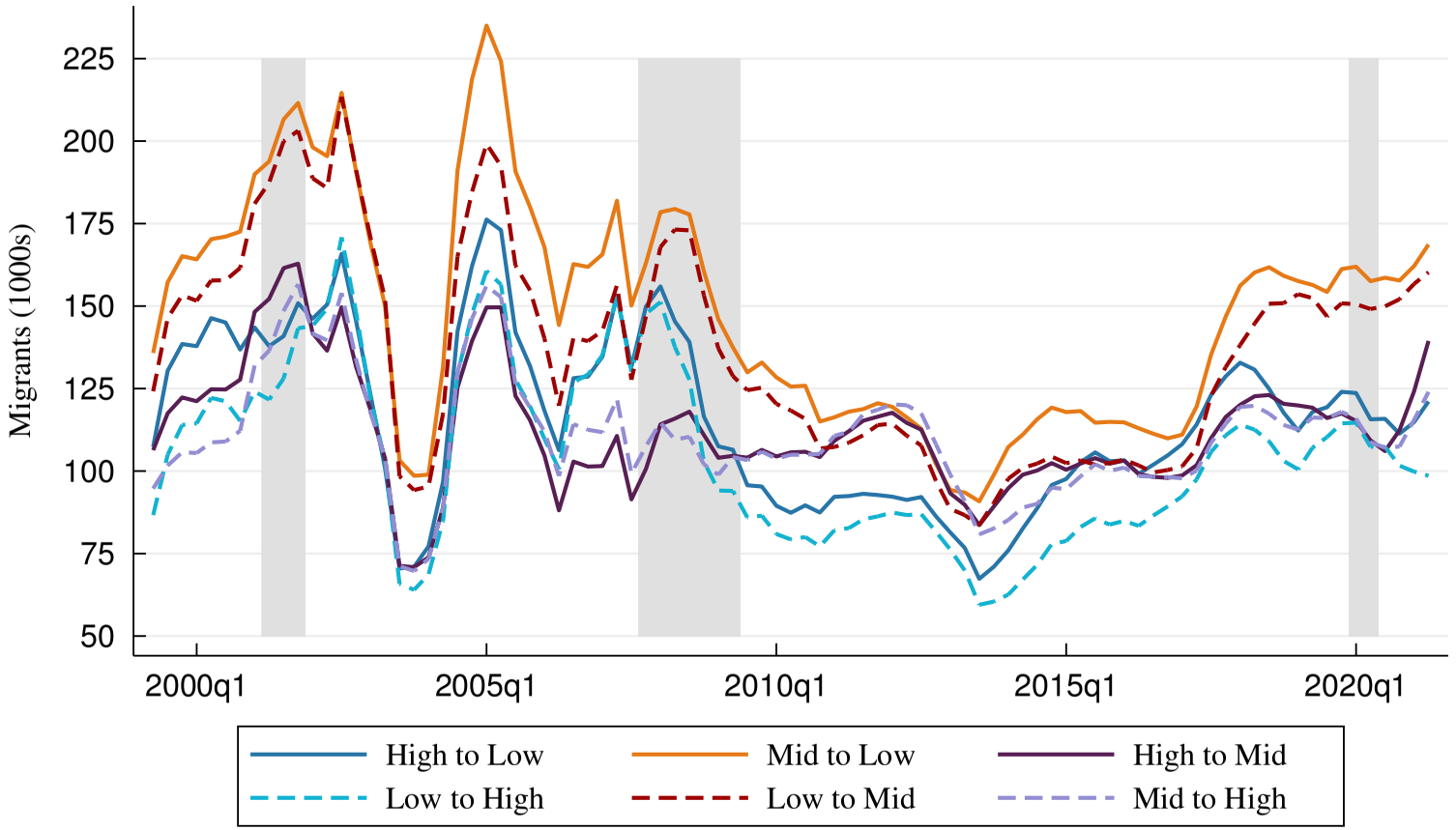

Figure 10: Four quarter moving average of estimated migration flows between labor markets by the tercile of the market's unemployment rate. Origin and destination unemployment rates are the average of the four quarters before the individual migrates. Shaded bars indicate recessions. The solid lines represent moves toward regions with lower unemployment rates. The dashed lines represent moves toward regions with higher unemployment rates. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

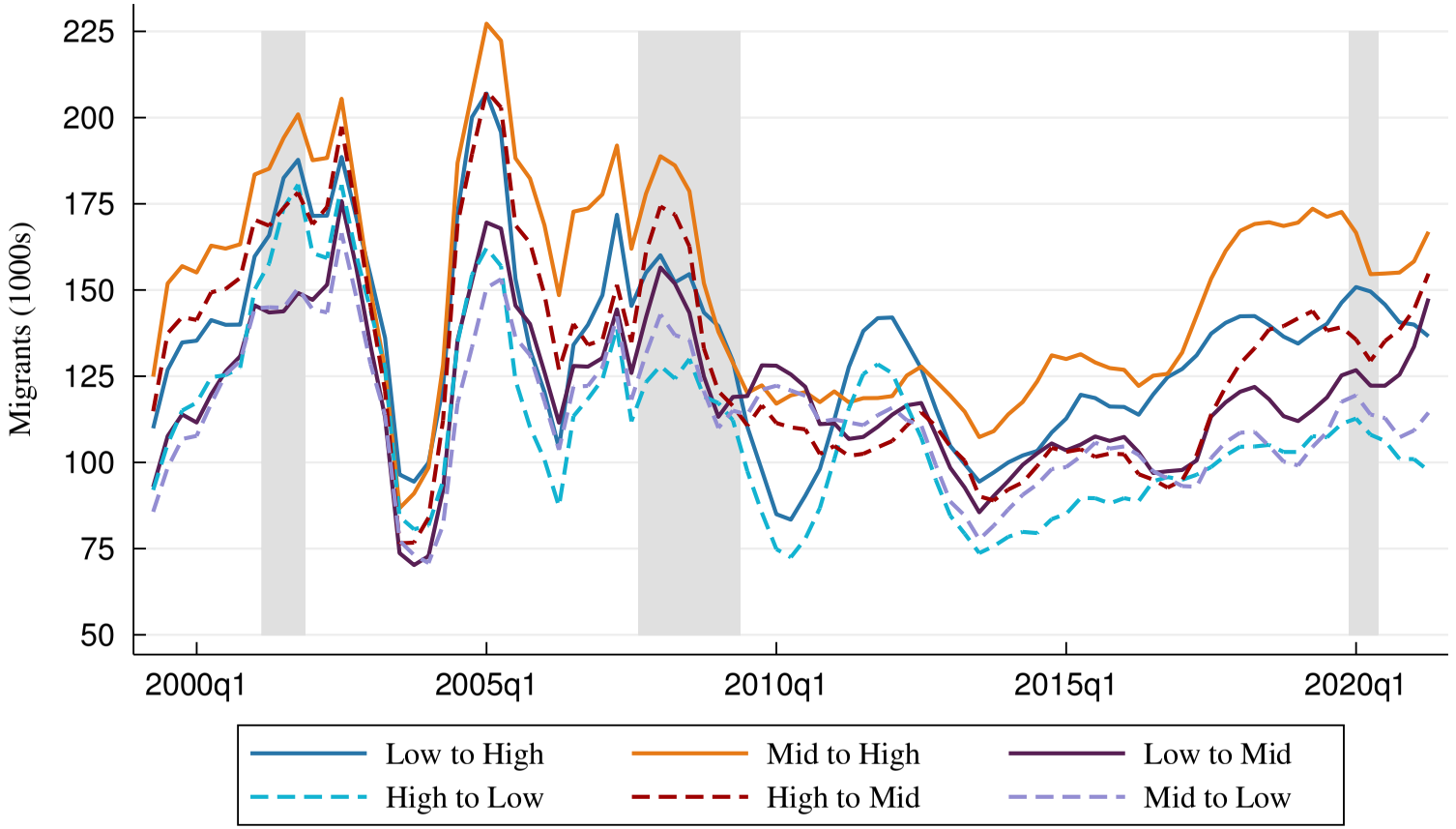

Figure 11: Four quarter moving average of estimated migration flows between labor markets by the tercile of the market's employment growth. Origin and destination employment growth is the average of the four quarters year-over-year growth before the individual migrates. Shaded bars indicate recessions. The solid lines represent moves toward regions with higher employment growth. The dashed lines represent moves toward regions with lower employment growth. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

Table 2: Net flows over the business cycle between labor markets categorized by the tercile of their labor market measures.

	From To	High UR Low UR	High UR Middle UR	Middle UR Low UR	Low EG High EG	Middle EG High EG	Low EG Middle EG
Dot Com	1999:Q2 to 2001:Q1	0.080***	0.062***	0.031***	0.057***	0.037***	0.007
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Second Jobless Recovery	2001:Q2 to 2004:Q1	0.015	0.001	0.012	0.045***	0.050***	0.012
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Housing Boom	2004:Q2 to 2007:Q4	0.023**	-0.033***	0.075***	0.102***	0.064***	0.039***
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Great Recession	2008:Q1 to 2010:Q3	0.055***	0.018*	0.032***	0.076***	0.047***	0.016
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Long Expansion	2010:Q4 to 2020:Q1	0.064***	0.007	0.041***	0.118***	0.099***	0.028***
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Pandemic	2020:Q2 to 2021:Q2	0.089***	0.048***	0.022***	0.167***	0.037***	0.112***
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Constant		0.002	0.001	0.000	0.003	0.004	0.002
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
R^2		0.001	0.001	0.000	0.001	0.001	0.001
N		979,118	997,490	1,269,289	1,091,695	1,251,997	1,045,290

The dependent variable has a value of 1 if the migrant is moving to a region with labor market conditions in a better tercile. The dependent variable has a value of -1 if the migrant is moving to a region with labor market conditions in a worse tercile. The samples include all migrants flowing between the two types of regions. The omitted category is moves in the quarter in which the mean of the dependent variable is closest in absolute value to zero. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

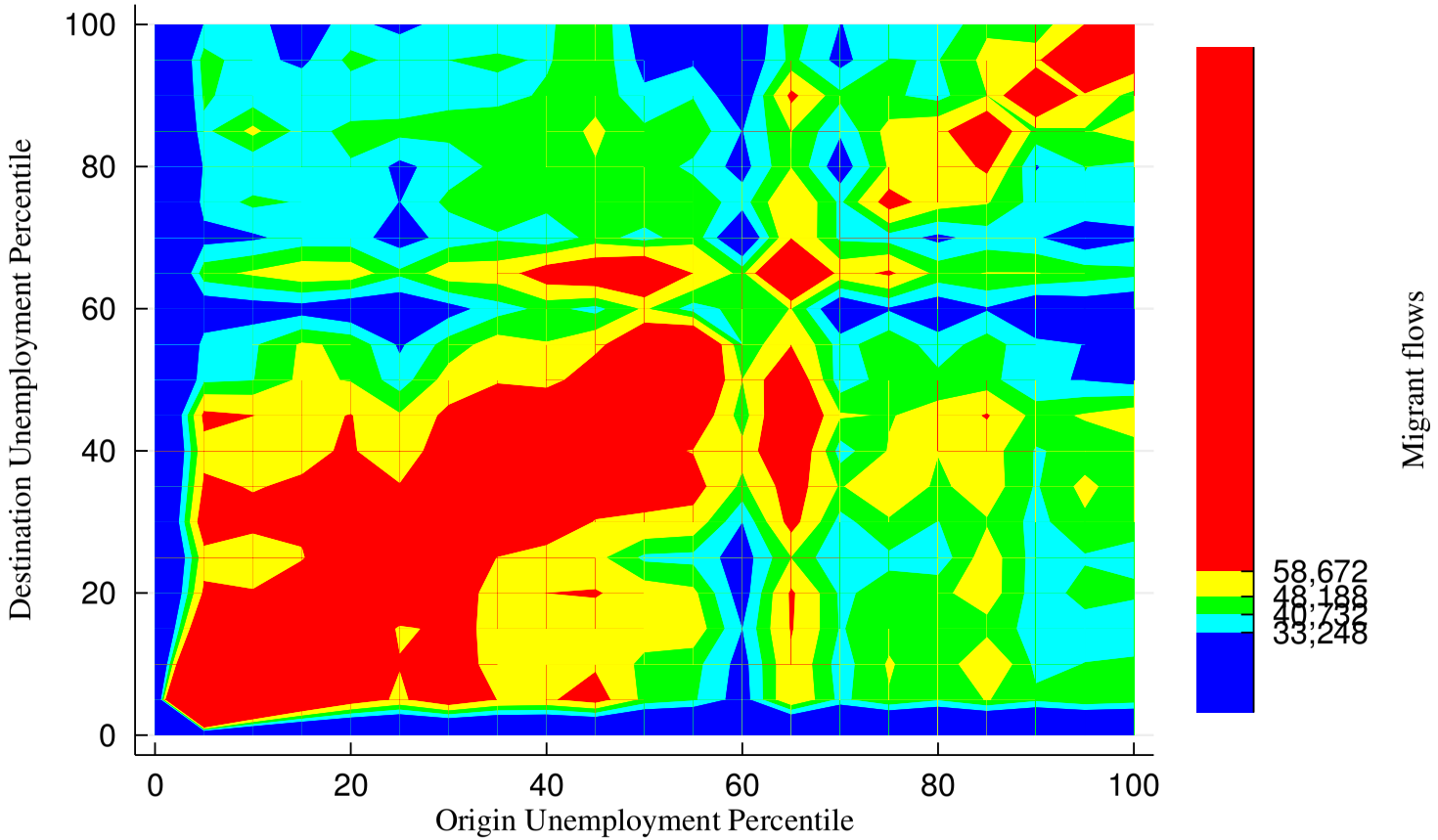

Figure 12: Migrant flows by percentile of origin and destination unemployment rate during tight labor market conditions, 2016-2019. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

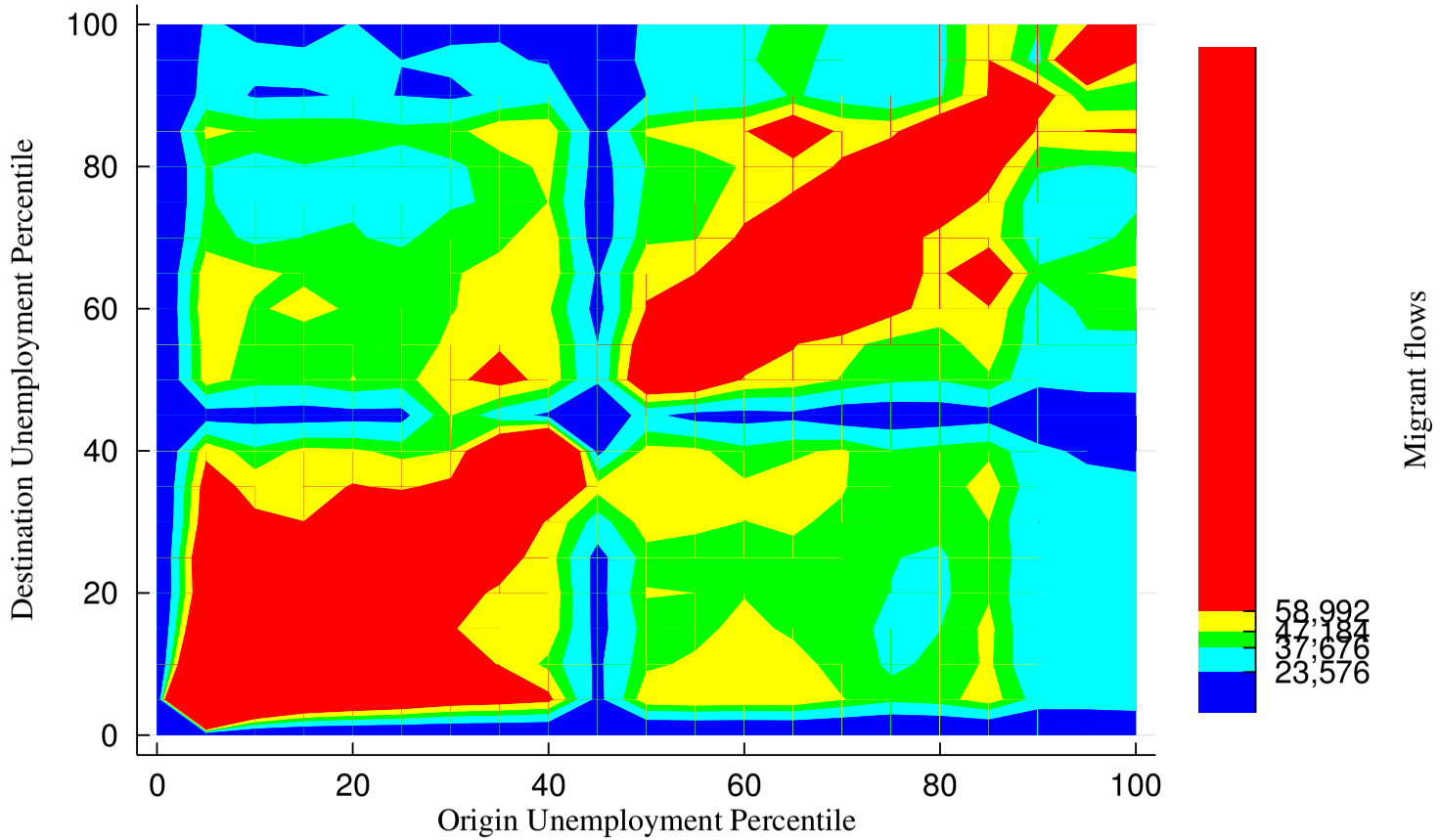

Figure 13: Migrant flows by percentile of origin and destination unemployment rate during slack labor market conditions, 2008-2011. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

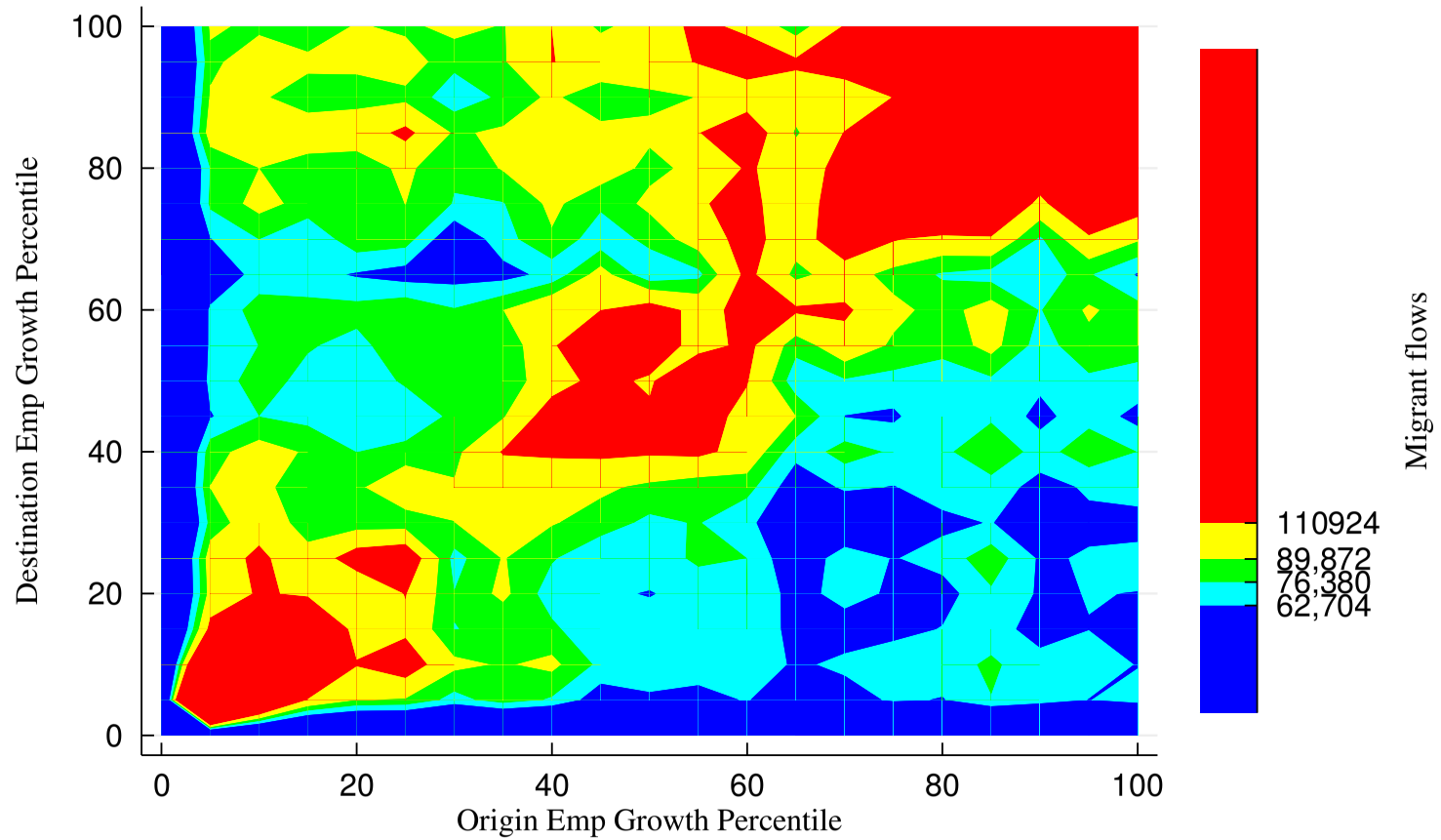

Figure 14: Migrant flows by percentile of origin and destination employment growth during tight labor market conditions, 2016-2019. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

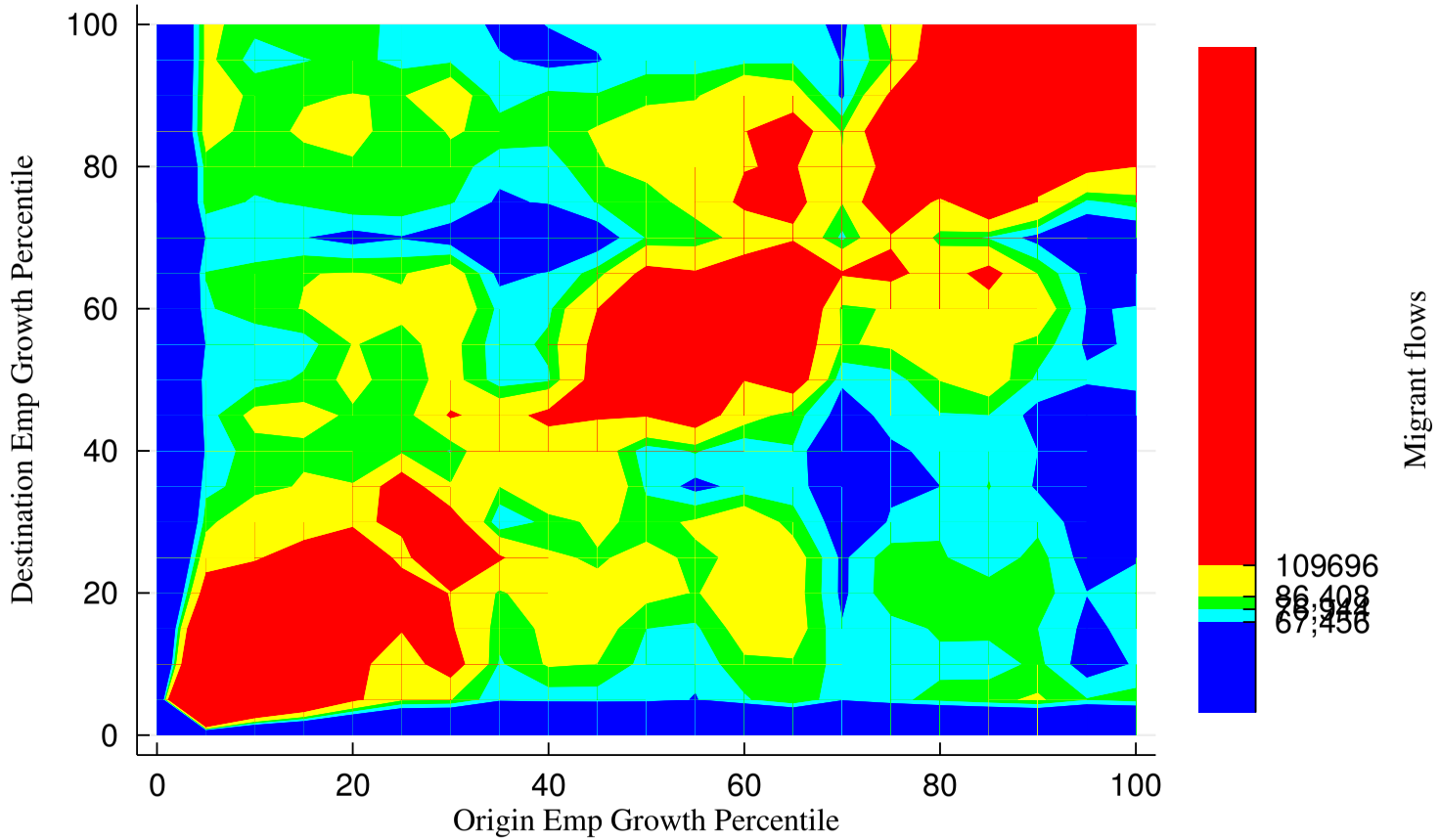

Figure 15: Migrant flows by percentile of origin and destination employment growth during slack labor market conditions, 2008-2011. Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

Table 3: Probability of arriving in a commuting zone by decile of the zone's unemployment rate during tight labor markets, 2016 to 2019

Decile of Origin UR	Decile of Destination Unemployment Rate									
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth
First	0.194***	0.022***	0.007***	-0.033***	-0.073***	-0.043***	-0.038***	-0.022***	-0.008***	-0.006***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Second	0.048***	0.064***	0.029***	-0.016***	-0.058***	-0.027***	-0.020***	-0.012***	-0.005***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Third	0.025***	0.025***	0.073***	0.004***	-0.059***	-0.033***	-0.025***	-0.013***	0.001	0.003**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Fourth	0.002	0.002	0.026***	0.057***	-0.043***	-0.017***	-0.018***	-0.005***	-0.003**	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Fifth	0.096***	0.098***	0.092***	0.126***	0.156***	0.097***	0.104***	0.084***	0.078***	0.068***
(Constant)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Sixth	-0.011***	-0.000	-0.000	0.003**	-0.015***	0.024***	-0.003***	0.006***	0.007***	-0.010***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Seventh	0.001	0.004***	0.001	-0.012***	-0.037***	-0.012***	0.023***	0.005***	0.018***	0.009***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Eighth	0.005***	0.001	-0.001	-0.013***	-0.051***	-0.017***	-0.005***	0.038***	0.027***	0.016***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Ninth	0.007***	-0.004***	0.004***	-0.025***	-0.057***	-0.023***	-0.012***	0.015***	0.057***	0.037***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Tenth	-0.001	-0.013***	-0.001	-0.029***	-0.067***	-0.038***	-0.024***	0.001	0.031***	0.140***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
R^2	0.035	0.005	0.005	0.006	0.005	0.005	0.003	0.003	0.005	0.022

The dependent variable is an indicator of choosing a labor market with an unemployment rate in the indicated decile. The independent variables are indicators of leaving an origin labor market with an unemployment rate in the indicated decile. Origins in the fifth decile are the omitted category, and the model includes a constant. Observations limited to prime-age movers, aged 25 to 54. N=1,009,719 for all models. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

Table 4: Probability of arriving in a commuting zone by decile of the zone's unemployment rate during slack labor markets, 2008 to 2011

Decile of Origin UR	Decile of Destination Unemployment Rate									
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth
First	0.207***	0.047***	0.005***	-0.050***	-0.061***	-0.054***	-0.032***	-0.028***	-0.017***	-0.016***
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Second	0.077***	0.104***	0.021***	-0.037***	-0.054***	-0.047***	-0.025***	-0.017***	-0.010***	-0.012***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Third	0.041***	0.040***	0.082***	-0.031***	-0.030***	-0.045***	-0.021***	-0.015***	-0.011***	-0.012***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Fourth	0.004***	0.008***	0.010***	0.060***	-0.032***	-0.033***	-0.007***	-0.001	0.005***	-0.014***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Fifth	0.104***	0.095***	0.109***	0.134***	0.112***	0.131***	0.103***	0.083***	0.074***	0.055***
(Constant)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Sixth	-0.002	-0.003*	-0.020***	-0.040***	-0.026***	0.032***	0.034***	0.007***	0.008***	0.010***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Seventh	-0.011***	-0.012***	-0.024***	-0.043***	-0.048***	-0.001	0.064***	0.034***	0.022***	0.017***
	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Eighth	-0.017***	-0.015***	-0.025***	-0.046***	-0.053***	-0.021***	0.030***	0.096***	0.035***	0.018***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Ninth	-0.016***	-0.014***	-0.029***	-0.049***	-0.057***	-0.036***	0.009***	0.024***	0.119***	0.050***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Tenth	-0.026***	-0.025***	-0.041***	-0.075***	-0.060***	-0.036***	0.004**	0.009***	0.049***	0.201***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
R^2	0.046	0.015	0.012	0.014	0.005	0.007	0.009	0.013	0.017	0.048

The dependent variable is an indicator of choosing a labor market with an unemployment rate in the indicated decile. The independent variables are indicators of leaving an origin labor market with an unemployment rate in the indicated decile. Origins in the fifth decile are the omitted category, and the model includes a constant. Observations limited to prime-age movers, aged 25 to 54. N=985,364 for all models. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

Table 5: Probability of arriving in a commuting zone by decile of the zone's employment growth during tight labor markets, 2016 to 2019

Decile of Origin EG	Decile of Destination EG									
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth
First	0.127***	0.032***	0.010***	-0.019***	-0.046***	-0.050***	-0.019***	-0.014***	-0.001	-0.020***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Second	0.042***	0.042***	0.022***	-0.017***	-0.037***	-0.036***	-0.003**	-0.008***	0.004***	-0.009***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Third	0.029***	0.028***	0.018***	-0.008***	-0.030***	-0.026***	-0.007***	-0.004***	0.005***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Fourth	0.018***	0.010***	0.011***	0.005***	-0.016***	-0.025***	-0.004***	-0.003**	0.004***	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Fifth	0.070***	0.075***	0.084***	0.108***	0.118***	0.128***	0.086***	0.102***	0.111***	0.118***
(Constant)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Sixth	-0.000	0.000	-0.004***	-0.014***	-0.004***	-0.021***	0.017***	0.010***	0.012***	0.004**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Seventh	-0.002*	0.000	-0.012***	-0.027***	-0.037***	-0.010***	0.028***	0.029***	0.015***	0.016***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Eighth	0.001	-0.011***	-0.018***	-0.036***	-0.046***	-0.036***	0.011***	0.065***	0.037***	0.033***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Ninth	0.004***	-0.005***	-0.014***	-0.034***	-0.047***	-0.039***	-0.002*	0.028***	0.065***	0.042***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Tenth	-0.004***	-0.011***	-0.017***	-0.032***	-0.049***	-0.043***	-0.003**	0.028***	0.040***	0.091***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
R^2	0.018	0.004	0.003	0.002	0.004	0.002	0.002	0.005	0.004	0.009

The dependent variable is an indicator of choosing a labor market with employment growth in the indicated decile. The independent variables are indicators of leaving an origin labor market with employment growth in the indicated decile. Origins in the fifth decile are the omitted category, and the model includes a constant. Observations limited to prime-age movers, aged 25 to 54. N=1,009,719 for all models. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

Table 6: Probability of arriving in a commuting zone by decile of the zone's employment growth during slack labor markets, 2008 to 2011

Decile of Origin EG	Decile of Destination EG									
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth
First	0.144***	0.038***	-0.006***	-0.023***	-0.051***	-0.054***	-0.019***	-0.018***	-0.014***	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Second	0.051***	0.062***	0.013***	-0.012***	-0.040***	-0.041***	-0.016***	-0.010***	-0.008***	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Third	0.018***	0.021***	0.028***	0.009***	-0.028***	-0.029***	-0.010***	-0.007***	-0.002	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Fourth	0.009***	0.010***	0.011***	0.023***	-0.013***	-0.029***	-0.014***	-0.006***	0.004**	0.006***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Fifth	0.075***	0.092***	0.097***	0.096***	0.125***	0.127***	0.094***	0.096***	0.107***	0.089***
(Constant)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Sixth	-0.003**	-0.006***	-0.003**	-0.020***	-0.014***	0.024***	0.013***	0.006***	0.003*	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Seventh	0.008***	-0.005***	-0.010***	-0.019***	-0.032***	-0.003**	0.036***	0.022***	0.004**	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Eighth	-0.001	-0.012***	-0.018***	-0.024***	-0.044***	-0.034***	0.013***	0.047***	0.041***	0.030***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Ninth	-0.002*	-0.015***	-0.021***	-0.025***	-0.050***	-0.039***	-0.012***	0.018***	0.085***	0.060***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Tenth	-0.008***	-0.027***	-0.034***	-0.036***	-0.062***	-0.057***	-0.033***	-0.002	0.045***	0.214***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
R^2	0.023	0.008	0.004	0.004	0.004	0.007	0.004	0.004	0.009	0.040

The dependent variable is an indicator of choosing a labor market with employment growth in the indicated decile. The independent variables are indicators of leaving an origin labor market with employment growth in the indicated decile. Origins in the fifth decile are the omitted category, and the model includes a constant. Observations limited to prime-age movers, aged 25 to 54. N=985,826 for all models. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

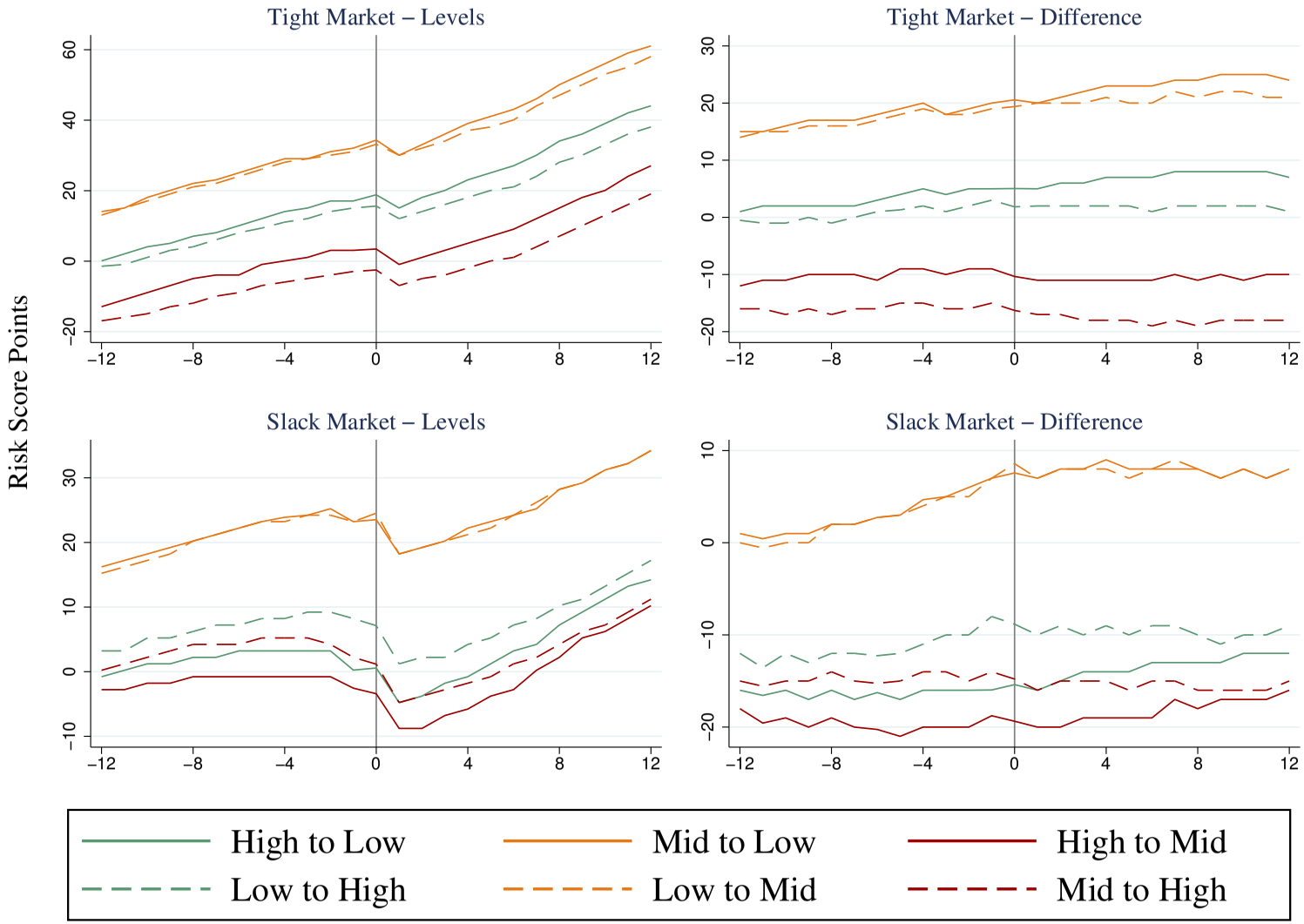

Figure 16: Median Equifax Risk Score of migrants moving between regions categorized by the tercile of the region's unemployment rate. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

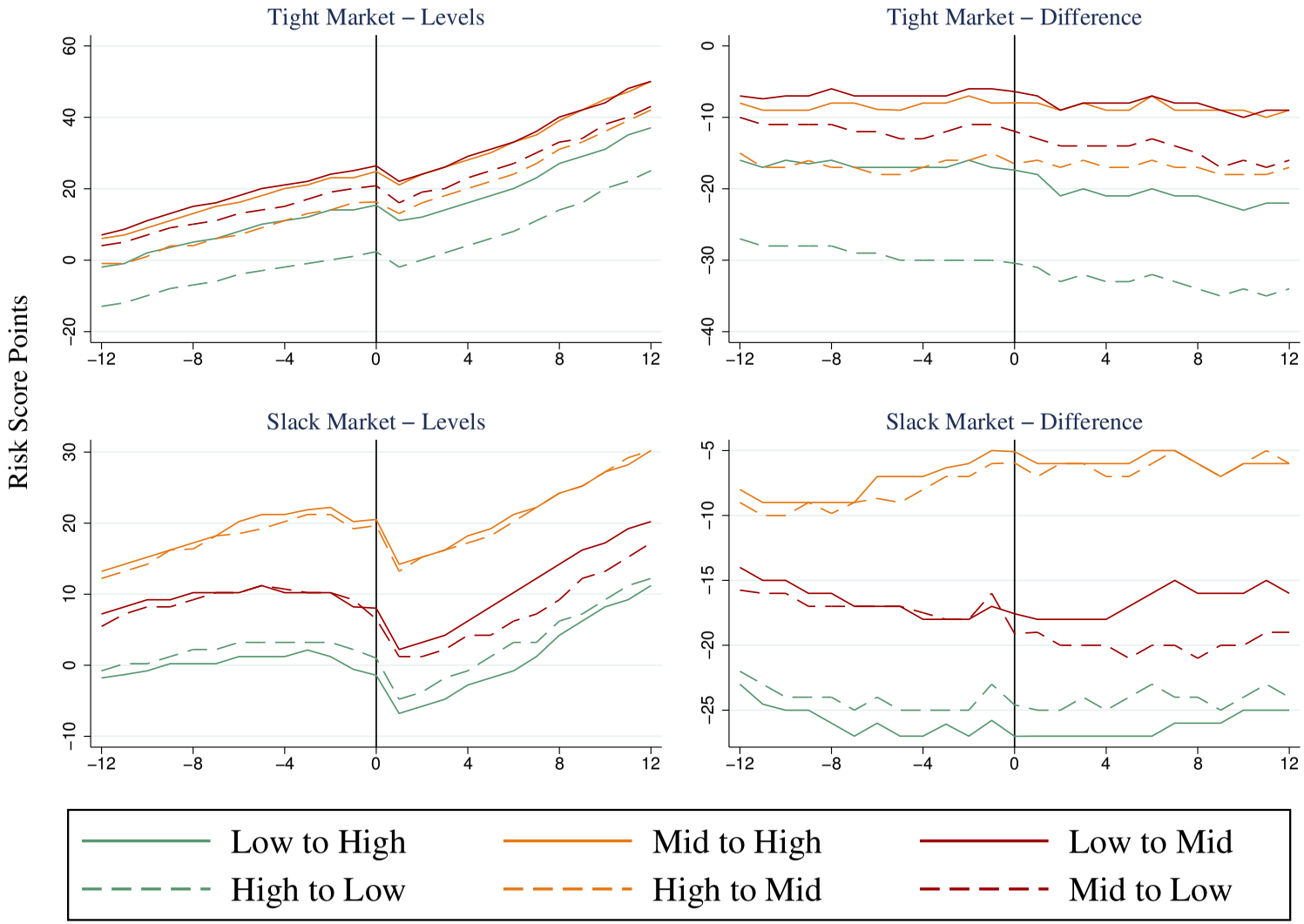

Figure 17: Median Equifax Risk Score of migrants moving between regions categorized by the tercile of the region's employment growth. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

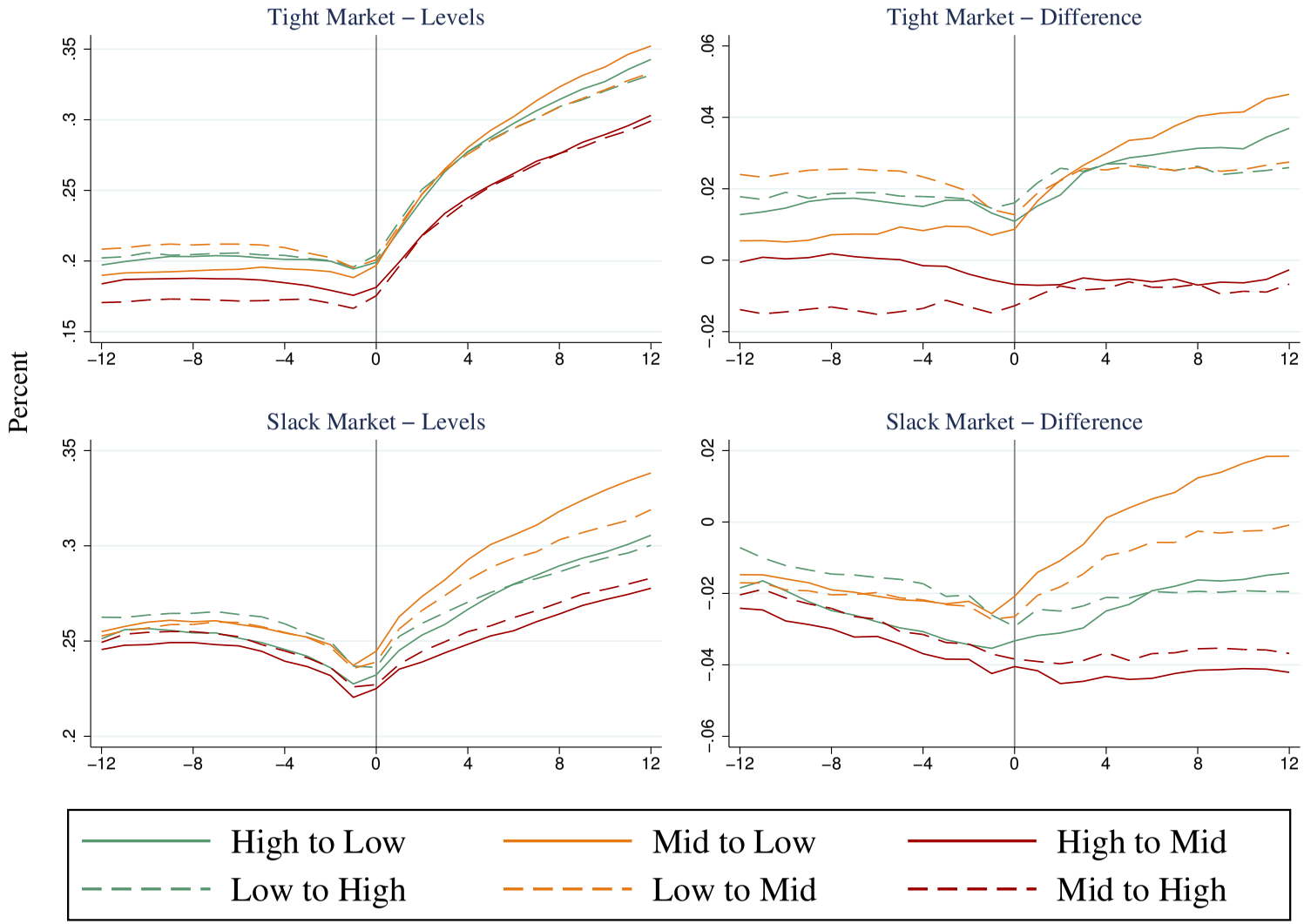

Figure 18: Homeownership rate of migrants moving between regions categorized by the tercile of the region's unemployment rate. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

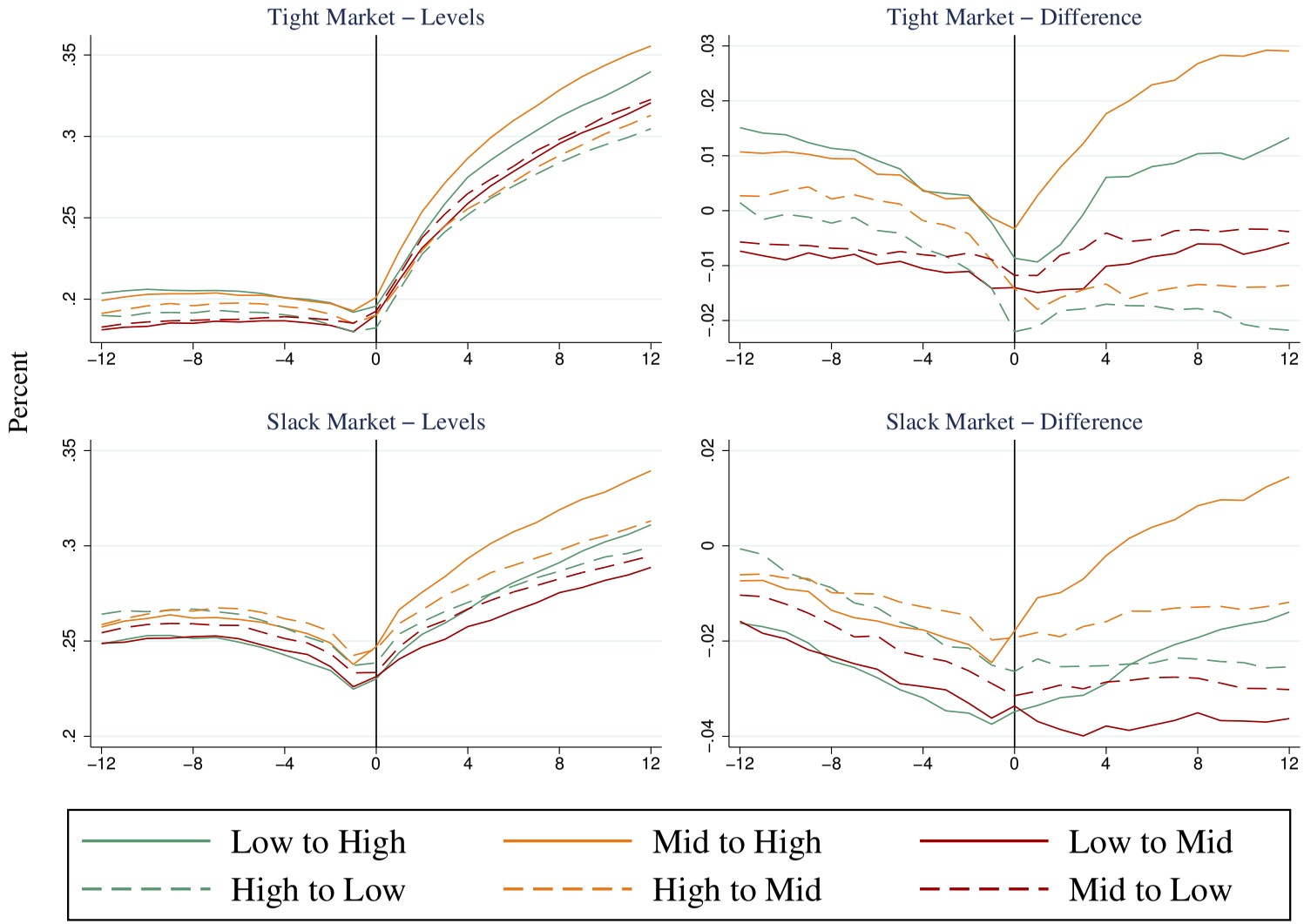

Figure 19: Homeownership rate of migrants moving between regions categorized by the tercile of the region's employment growth. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

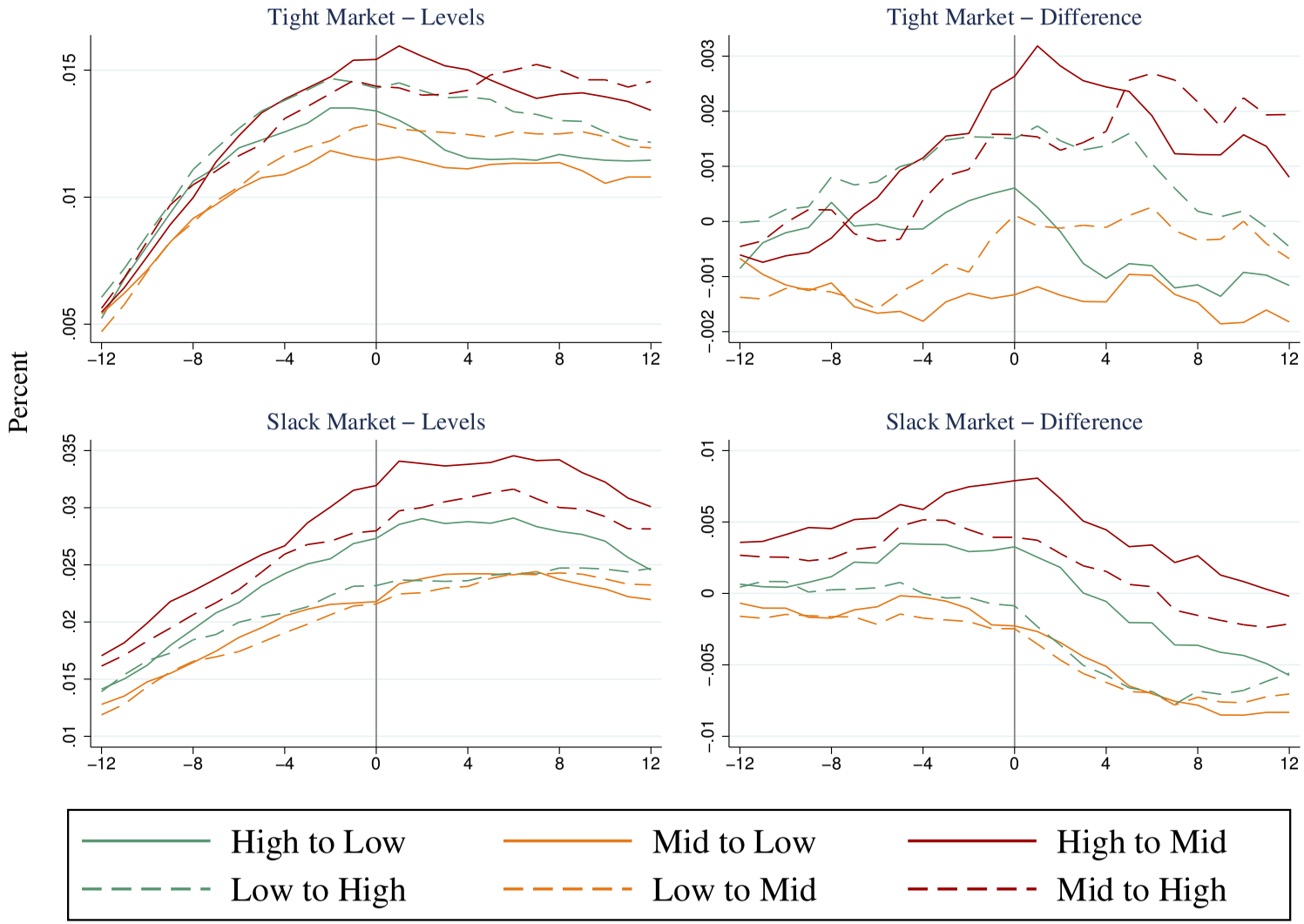

Figure 20: Bankruptcy rate of migrants moving between regions categorized by the tercile of the region's unemployment rate. Bankruptcy is defined as the new appearance of a bankruptcy flag in a migrant's credit history any time in the preceding 12 quarters. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

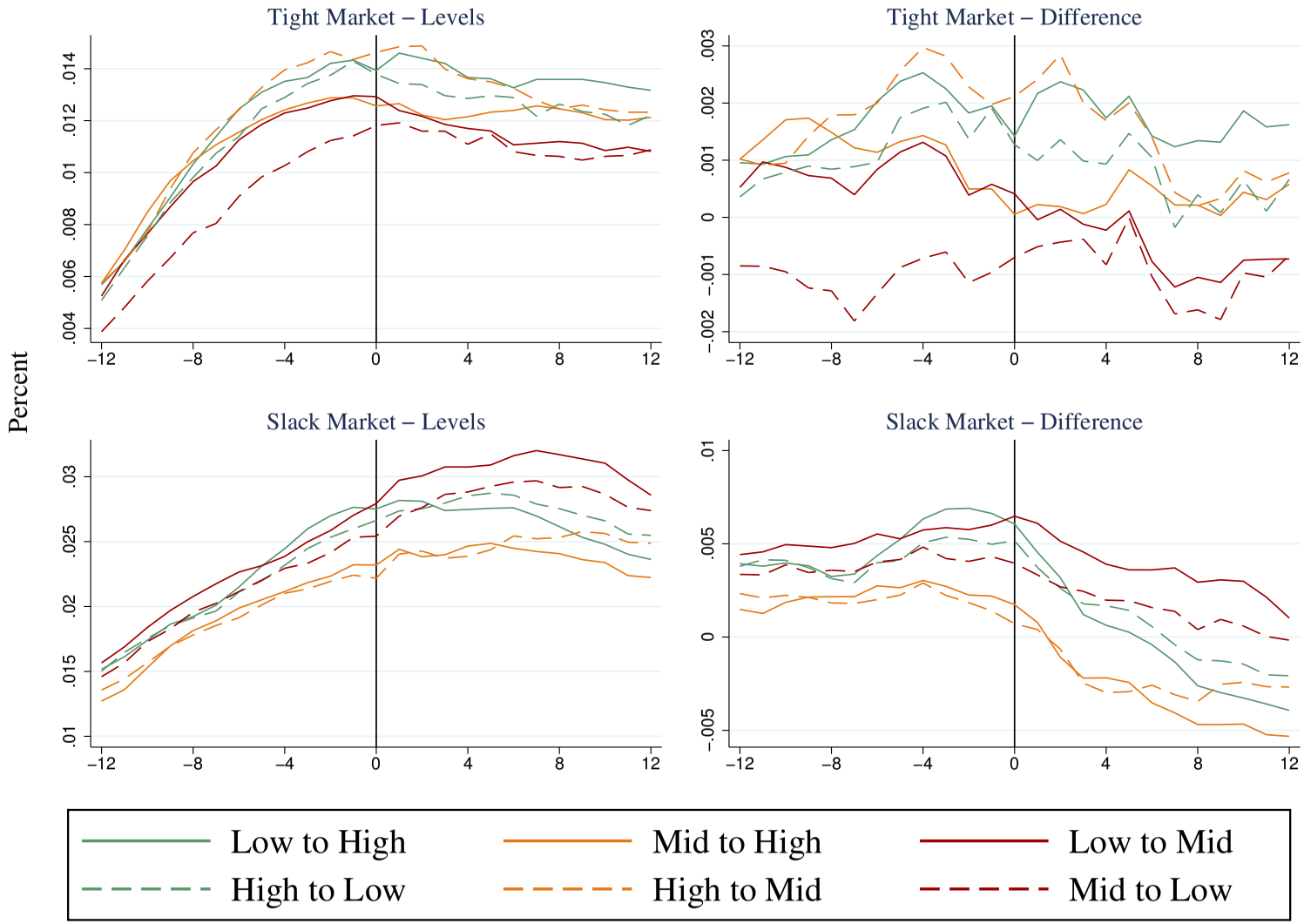

Figure 21: Bankruptcy rate of migrants moving between regions categorized by the tercile of the region's employment growth. Bankruptcy is defined as the new appearance of a bankruptcy flag in a migrant's credit history any time in the preceding 12 quarters. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

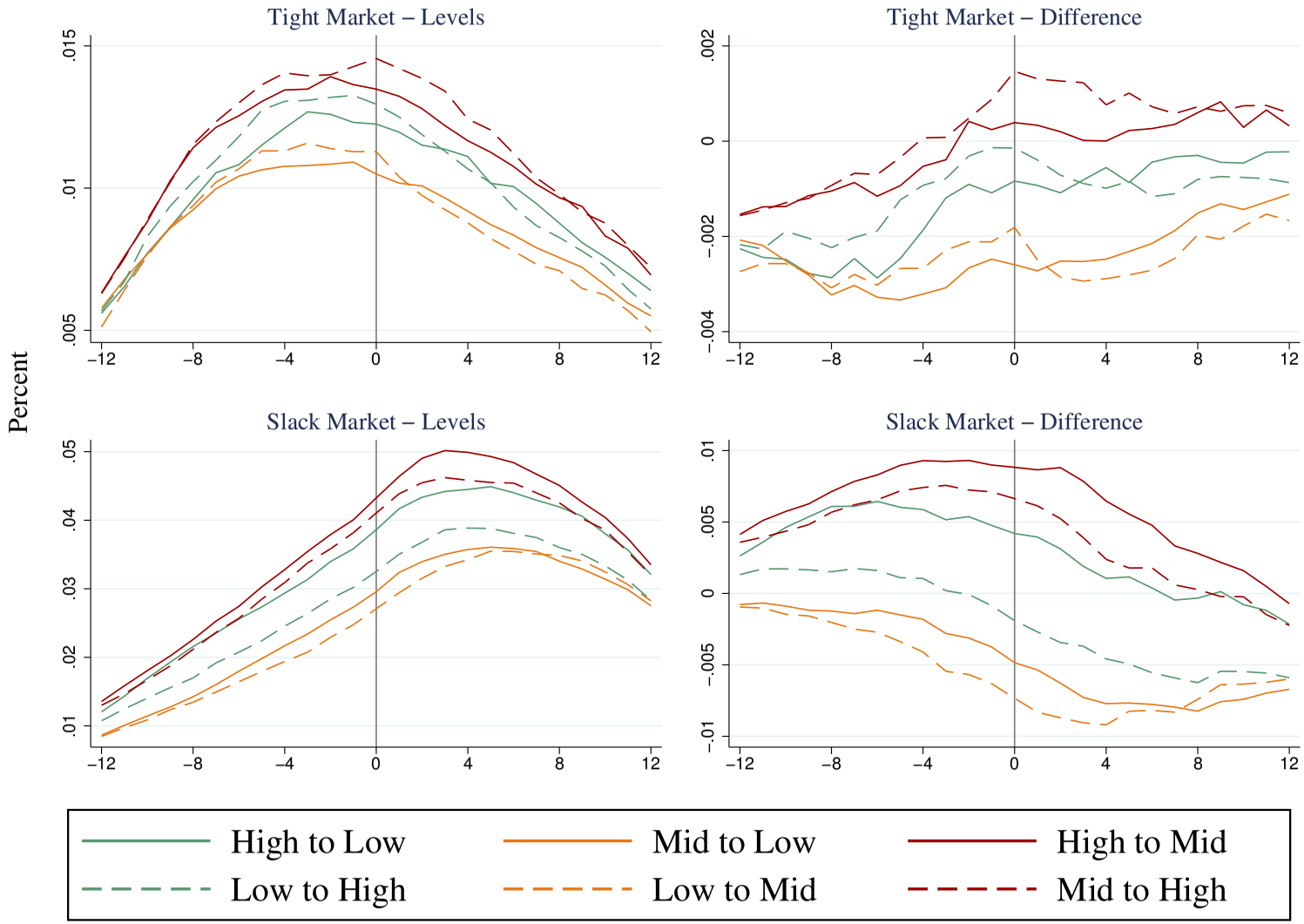

Figure 22: Foreclosure rate of migrants moving between regions categorized by the tercile of the region's unemployment rate. Foreclosure is defined as the new appearance of a foreclosure flag in a migrant's credit history any time in the preceding 12 quarters. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

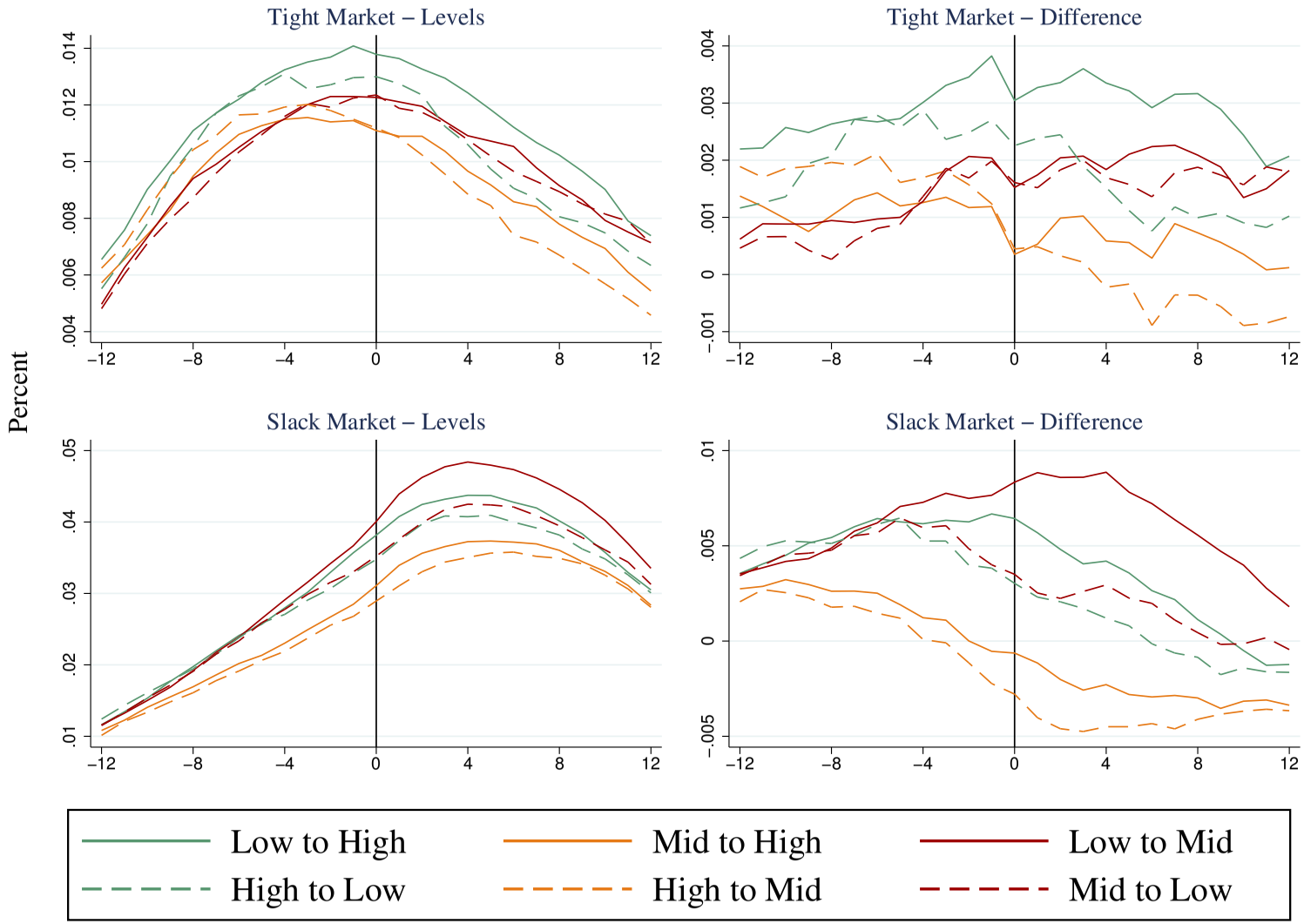

Figure 23: Foreclosure rate of migrants moving between regions categorized by the tercile of the region's employment growth. Foreclosure is defined as the new appearance of a foreclosure flag in a migrant's credit history any time in the preceding 12 quarters. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

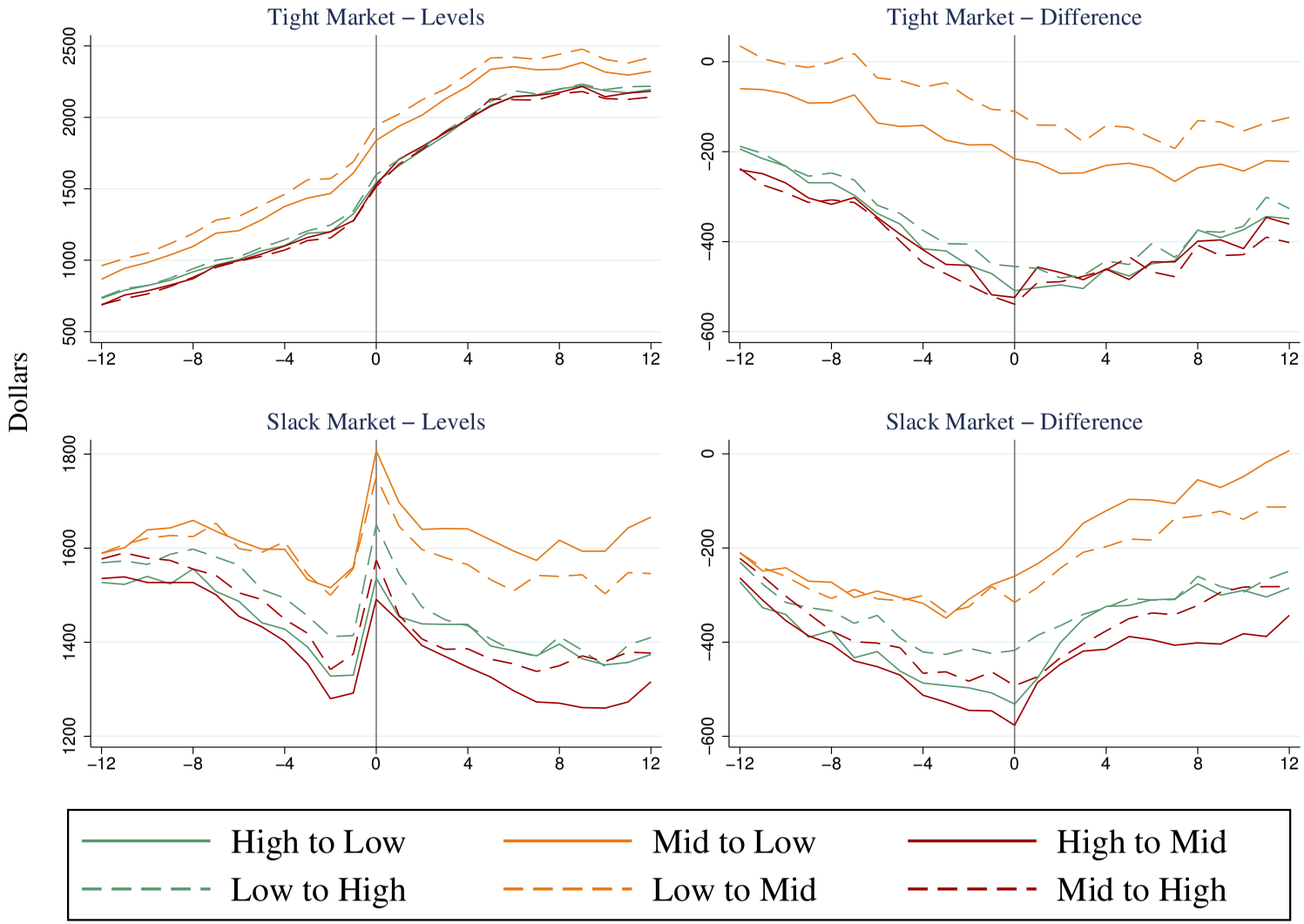

Figure 24: Median consumer credit balance of migrants moving between regions categorized by the tercile of the region's unemployment rate. Balances include credit card debt and other consumer debt. Mortgages, home equity loans, auto loans and students loans are not included. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

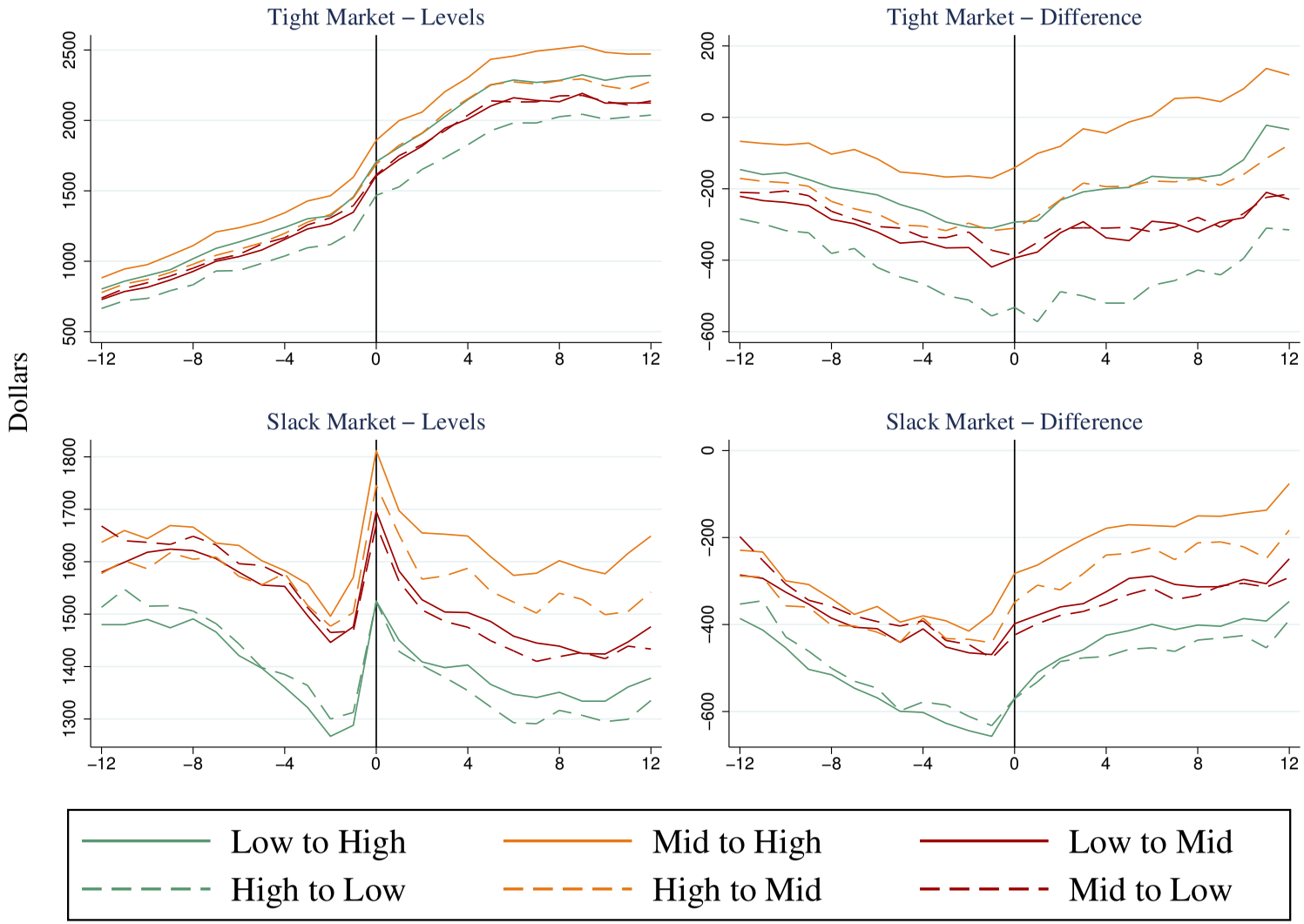

Figure 25: Median consumer credit balance of migrants moving between regions categorized by the tercile of the region's employment growth. Balances include credit card debt and other consumer debt. Mortgages, home equity loans, auto loans and students loans are not included. Quarters are defined relative to the end of the last quarter when the migrant is observed in the origin market (quarter zero). *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

Appendix

Table A1: Descriptive statistics of the differences in the unemployment rate between migrants' origin and destination.

Quarter	Median	Mean	Standard Deviation	Quarter	Median	Mean	Standard Deviation
1999 Q2	-0.089	-0.116	2.142	2010 Q1	0.640	0.388	2.359
1999 Q3	-0.095	-0.125	2.130	2010 Q2	0.570	0.370	2.517
1999 Q4	-0.090	-0.111	2.077	2010 Q3	0.293	0.164	2.524
2000 Q1	-0.089	-0.119	2.090	2010 Q4	0.140	0.094	2.530
2000 Q2	-0.092	-0.135	2.055	2011 Q1	0.019	0.009	2.486
2000 Q3	-0.084	-0.123	1.849	2011 Q2	-0.029	0.000	2.458
2000 Q4	-0.054	-0.076	1.664	2011 Q3	-0.120	-0.052	2.453
2001 Q1	-0.032	-0.056	1.516	2011 Q4	-0.116	-0.096	2.416
2001 Q2	-0.021	-0.041	1.378	2012 Q1	-0.114	-0.080	2.380
2001 Q3	-0.014	-0.037	1.378	2012 Q2	-0.165	-0.097	2.353
2001 Q4	0.053	0.021	1.383	2012 Q3	-0.177	-0.102	2.338
2002 Q1	0.127	0.087	1.367	2012 Q4	-0.220	-0.143	2.207
2002 Q2	0.238	0.136	1.390	2013 Q1	-0.250	-0.173	2.248
2002 Q3	0.229	0.148	1.431	2013 Q2	-0.216	-0.181	2.213
2002 Q4	0.203	0.144	1.528	2013 Q3	-0.140	-0.127	2.173
2003 Q1	0.162	0.105	1.537	2013 Q4	-0.154	-0.136	2.111
2003 Q2	0.089	0.084	1.580	2014 Q1	-0.171	-0.157	2.055
2003 Q3	-0.006	-0.013	1.618	2014 Q2	-0.177	-0.162	1.977
2003 Q4	-0.014	-0.023	1.599	2014 Q3	-0.230	-0.163	1.906
2004 Q1	-0.006	-0.022	1.663	2014 Q4	-0.230	-0.163	1.828
2004 Q2	-0.030	-0.034	1.693	2015 Q1	-0.236	-0.183	1.722
2004 Q3	-0.054	-0.050	1.639	2015 Q2	-0.215	-0.157	1.665
2004 Q4	-0.127	-0.087	1.602	2015 Q3	-0.185	-0.140	1.578
2005 Q1	-0.179	-0.115	1.548	2015 Q4	-0.143	-0.125	1.536
2005 Q2	-0.149	-0.123	1.521	2016 Q1	-0.170	-0.124	1.478
2005 Q3	-0.130	-0.096	1.492	2016 Q2	-0.139	-0.102	1.418
2005 Q4	-0.122	-0.105	1.510	2016 Q3	-0.123	-0.096	1.408
2006 Q1	-0.115	-0.106	1.488	2016 Q4	-0.102	-0.084	1.382
2006 Q2	-0.099	-0.080	1.581	2017 Q1	-0.099	-0.098	1.374
2006 Q3	-0.096	-0.059	1.592	2017 Q2	-0.096	-0.088	1.374
2006 Q4	-0.091	-0.068	1.566	2017 Q3	-0.078	-0.066	1.347
2007 Q1	-0.082	-0.068	1.529	2017 Q4	-0.109	-0.079	1.296
2007 Q2	-0.100	-0.081	1.547	2018 Q1	-0.138	-0.103	1.260
2007 Q3	-0.056	-0.055	1.478	2018 Q2	-0.140	-0.094	1.216
2007 Q4	-0.039	-0.039	1.436	2018 Q3	-0.120	-0.075	1.159
2008 Q1	-0.025	-0.049	1.231	2018 Q4	-0.112	-0.082	1.111
2008 Q2	0.023	-0.020	1.367	2019 Q1	-0.122	-0.080	1.065
2008 Q3	0.062	-0.001	1.389	2019 Q2	-0.094	-0.073	1.056
2008 Q4	0.117	0.034	1.358	2019 Q3	-0.054	-0.051	1.035
2009 Q1	0.218	0.089	1.421	2019 Q4	-0.076	-0.061	1.025
2009 Q2	0.335	0.183	1.575	2020 Q1	-0.061	-0.049	1.035
2009 Q3	0.435	0.266	1.843	2020 Q2	-0.064	-0.045	1.040
2009 Q4	0.482	0.301	2.154	2020 Q3	-0.024	-0.013	1.055
				2020 Q4	0.340	0.373	1.750
				2021 Q1	0.460	0.446	2.300
				2021 Q2	0.360	0.260	2.547

Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

Table A2: Descriptive statistics of the differences in employment growth between migrants' origin and destination.

Quarter	Median	Mean	Standard Deviation	Quarter	Median	Mean	Standard Deviation
1999 Q2	0.136	0.120	1.927	2010 Q1	-0.575	-0.404	2.456
1999 Q3	0.101	0.125	1.881	2010 Q2	-0.458	-0.353	2.438
1999 Q4	0.034	0.081	1.881	2010 Q3	0.017	-0.029	2.346
2000 Q1	0.079	0.121	1.940	2010 Q4	0.333	0.205	2.664
2000 Q2	0.044	0.085	1.938	2011 Q1	0.564	0.416	3.251
2000 Q3	0.074	0.091	1.953	2011 Q2	0.729	0.535	3.874
2000 Q4	0.040	0.066	2.391	2011 Q3	0.500	0.412	3.429
2001 Q1	-0.057	0.043	3.033	2011 Q4	0.257	0.276	2.861
2001 Q2	-0.100	0.000	3.513	2012 Q1	0.135	0.197	2.173
2001 Q3	-0.069	0.009	3.078	2012 Q2	0.087	0.153	1.749
2001 Q4	-0.040	-0.023	2.670	2012 Q3	0.073	0.112	1.673
2002 Q1	-0.022	-0.051	2.229	2012 Q4	0.204	0.170	1.661
2002 Q2	-0.140	-0.140	2.097	2013 Q1	0.218	0.202	1.737
2002 Q3	-0.236	-0.141	2.123	2013 Q2	0.143	0.172	1.773
2002 Q4	-0.113	-0.032	2.302	2013 Q3	0.087	0.125	1.768
2003 Q1	-0.040	0.032	2.349	2013 Q4	0.117	0.134	1.792
2003 Q2	0.101	0.110	2.311	2014 Q1	0.085	0.121	1.775
2003 Q3	0.154	0.165	2.242	2014 Q2	0.033	0.106	1.784
2003 Q4	0.211	0.208	2.186	2014 Q3	0.129	0.151	1.757
2004 Q1	0.147	0.180	2.319	2014 Q4	0.113	0.146	1.751
2004 Q2	0.133	0.149	2.071	2015 Q1	0.124	0.157	1.697
2004 Q3	0.091	0.096	2.178	2015 Q2	0.248	0.205	1.671
2004 Q4	0.178	0.191	1.908	2015 Q3	0.153	0.174	1.598
2005 Q1	0.343	0.292	1.768	2015 Q4	0.130	0.148	1.511
2005 Q2	0.263	0.264	1.837	2016 Q1	0.095	0.131	1.534
2005 Q3	0.212	0.232	1.863	2016 Q2	0.034	0.098	1.700
2005 Q4	0.236	0.217	1.918	2016 Q3	0.083	0.132	1.832
2006 Q1	0.187	0.236	2.001	2016 Q4	0.109	0.149	1.913
2006 Q2	0.174	0.208	2.210	2017 Q1	0.172	0.198	2.001
2006 Q3	0.155	0.173	2.182	2017 Q2	0.172	0.199	2.078
2006 Q4	0.096	0.180	2.094	2017 Q3	0.102	0.162	2.154
2007 Q1	0.061	0.154	2.059	2017 Q4	0.106	0.151	2.114
2007 Q2	0.122	0.187	2.092	2018 Q1	0.098	0.154	1.974
2007 Q3	0.049	0.118	1.992	2018 Q2	0.084	0.141	1.822
2007 Q4	-0.074	-0.004	1.941	2018 Q3	0.071	0.122	1.746
2008 Q1	-0.153	-0.071	1.663	2018 Q4	0.036	0.111	1.700
2008 Q2	-0.196	-0.099	1.786	2019 Q1	0.012	0.077	1.657
2008 Q3	-0.144	-0.122	1.668	2019 Q2	0.065	0.104	1.679
2008 Q4	-0.120	-0.100	1.585	2019 Q3	0.053	0.118	1.637
2009 Q1	-0.094	-0.095	1.686	2019 Q4	0.060	0.095	1.635
2009 Q2	-0.190	-0.144	1.869	2020 Q1	0.156	0.154	1.612
2009 Q3	-0.351	-0.234	2.097	2020 Q2	0.139	0.151	1.569
2009 Q4	-0.387	-0.282	2.334	2020 Q3	0.044	0.085	1.496
				2020 Q4	-0.288	-0.452	2.328
				2021 Q1	-0.482	-0.625	3.119
				2021 Q2	-0.504	-0.447	3.620

Observations limited to prime-age movers, aged 25 to 54. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

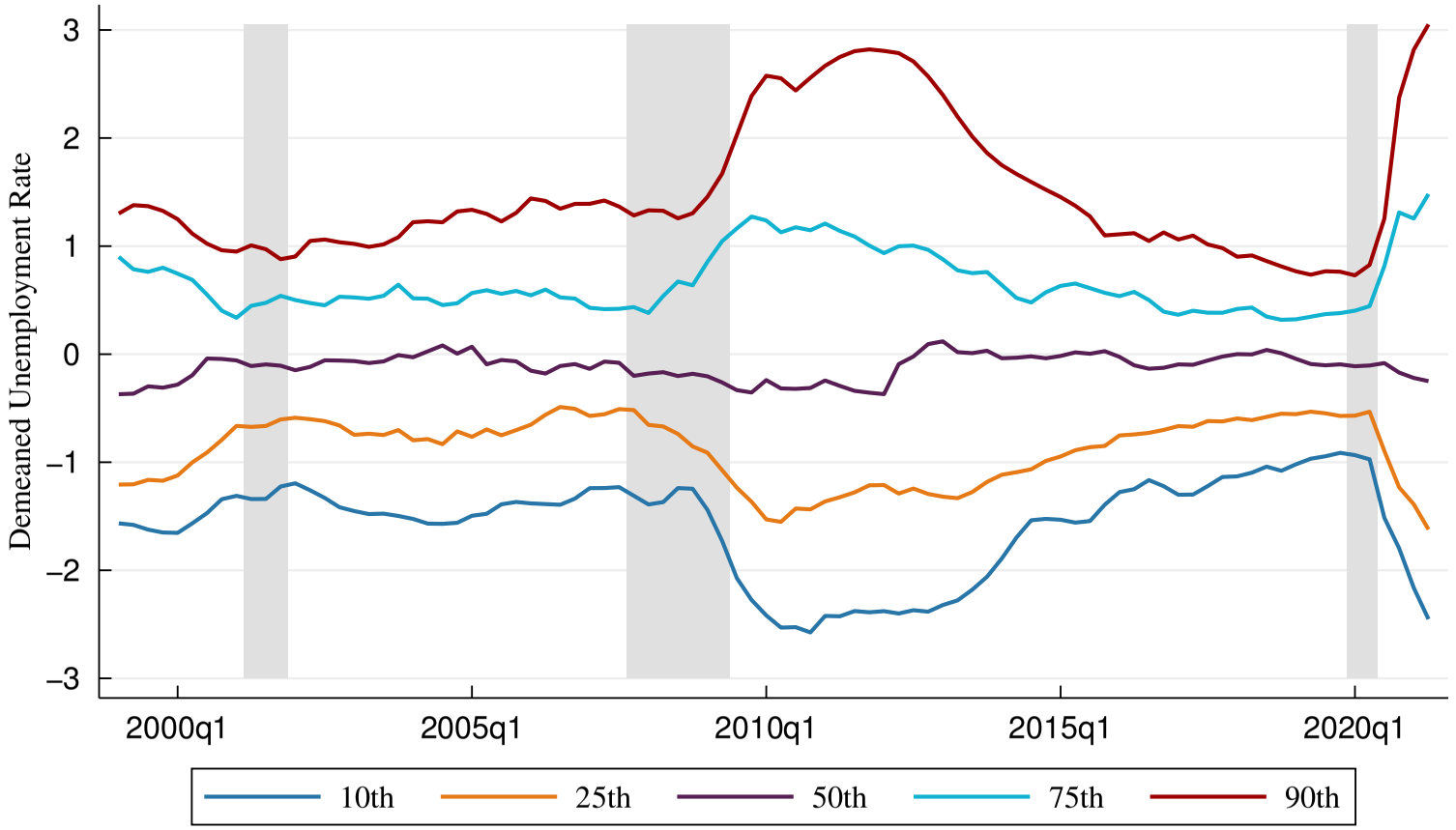

Figure A1: Distribution of the demeaned unemployment rate by quarter. Unemployment is estimated at the commuting zone level and is population weighted. Shaded bars indicate recessions. *Source:* Bureau of Labor Statistics.

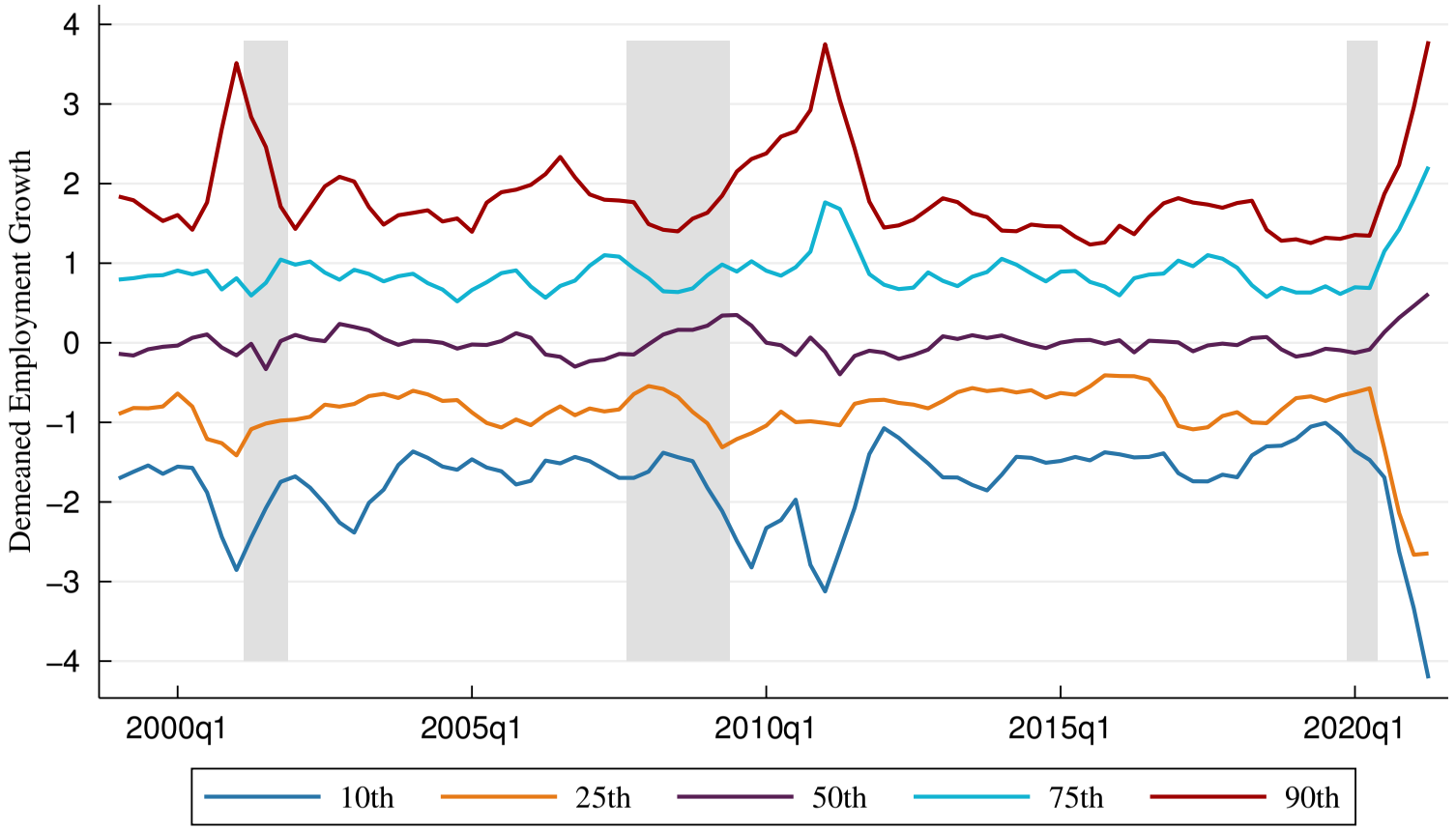

Figure A2: Distribution of the demeaned employment growth by quarter. Employment growth is estimated at the commuting zone level and is population weighted. Shaded bars indicate recessions. *Source:* Bureau of Labor Statistics.

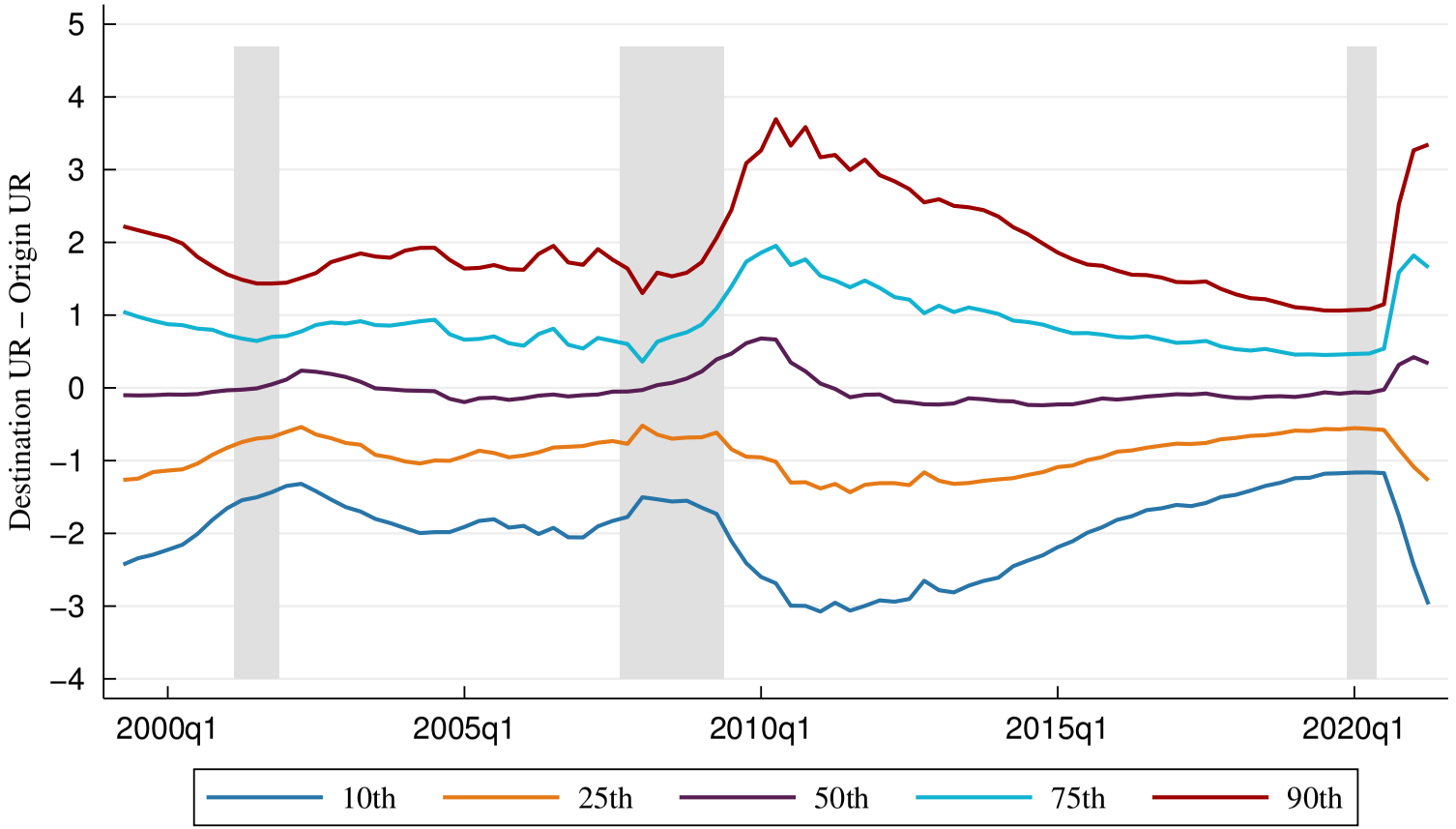

Figure A3: Differences in the unemployment rate between migrants' origin and destination for the full sample (in contrast to Figure 10, which is limited to prime-age individuals). Shaded bars indicate recessions. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

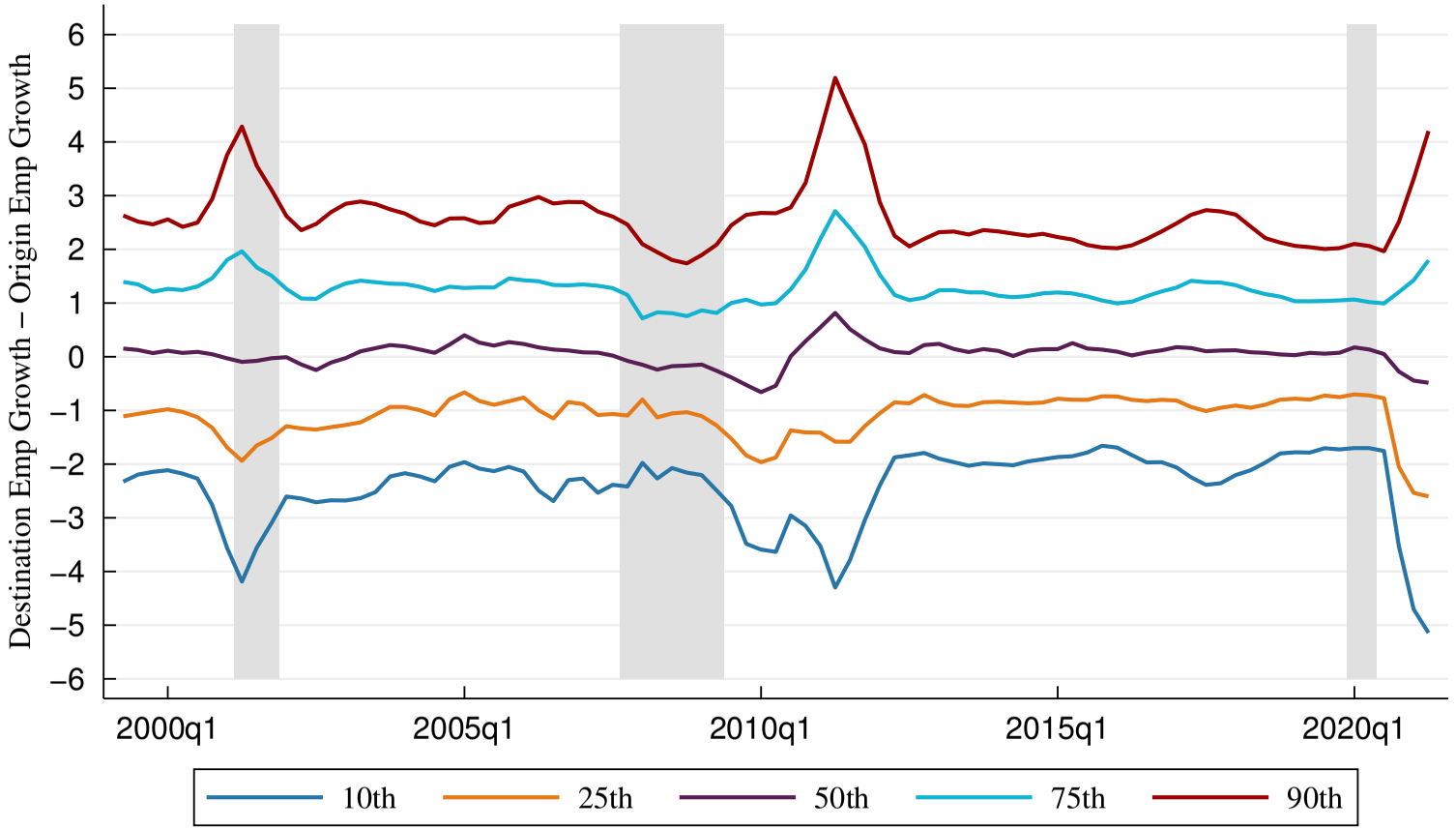

Figure A4: Differences in employment growth between migrants' origin and destination for the full sample (in contrast to Figure 11, which is limited to prime-age individuals). Shaded bars indicate recessions. *Sources:* Federal Reserve Bank of New York/Equifax Consumer Credit Panel, Bureau of Labor Statistics.

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